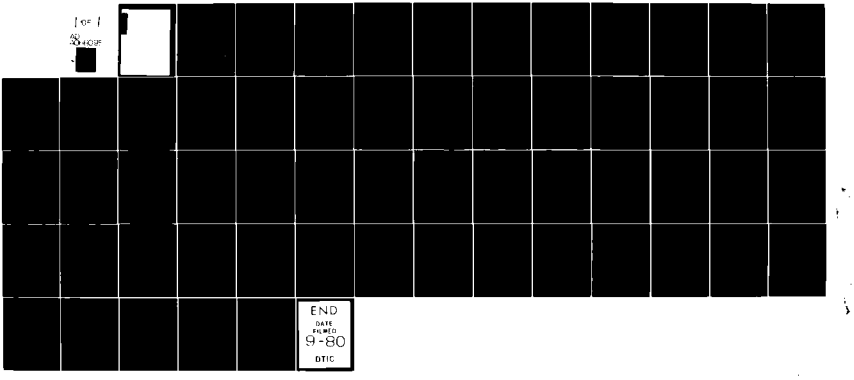
AD-A088 095 NAVAL SURFACE WEAPONS CENTER DAHLGREN VA F/G 3/3
EARTH'S ROTATION IN 1975-1979 BASED ON DOPPLER SATELLITE OBSERV--ETC(U)
MAY 80 R J ANDERLE
UNCLASSIFIED NSWC/TR-80-232 NL



END
DATE FILMED
9-80
DTIC

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: NSWC TR-80-232	2. GOVT ACCESSION NO.: AD-A088095
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): EARTH'S ROTATION IN 1975-1979 BASED ON DOPPLER SATELLITE OBSERVATIONS.	5. TYPE OF REPORT & PERIOD COVERED: Final rept
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Richard J. Anderle	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Naval Surface Weapons Center (K10), Dahlgren, VA 22448	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: DMATC 75-005
11. CONTROLLING OFFICE NAME AND ADDRESS: Defense Mapping Agency, Hydrographic/Topographic Center, Washington, DC 20390	12. REPORT DATE: May 1980
	13. NUMBER OF PAGES: 61
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report): UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Earth's Rotation Rate
Ephemerides
Navigation Satellites
Doppler Observations

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Doppler observations of Navy Navigation Satellites have been used to determine changes in earth's rotation during the years 1975-1979. Annual and semiannual variations determined from the Doppler observations are not valid due to the neglect of the gravitational effects of atmospheric and ocean tides on the orbit of a satellite. However, variations with periods of 50 to 120 days are correlated well with astronomic results. These variations integrate

(over)

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE S/N 0102-LF-014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

411567

20. ABSTRACT (Continued)

to amplitudes of two or more milliseconds in UT-1. Shorter period variations only occasionally correlate with astronomic results. There are also occasional conflicts in phases; and, generally, there is only about a 50-percent agreement in amplitude of the shorter period variations obtained from observations of different satellites.

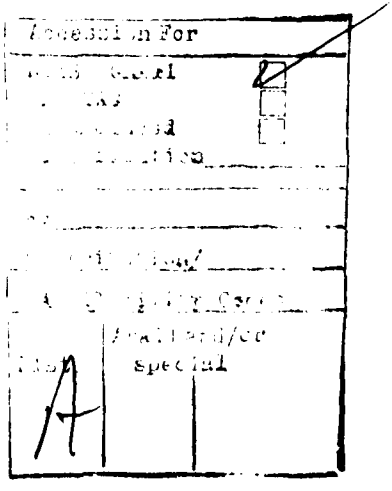
FOREWORD

Precise emphemerides of Navy Navigation Satellites computed from Doppler observations have been analyzed to determine variations in the earth's rotation rate for the time period 1973-1979. Semiannual, annual, and secular variations are adopted from astronomical results because the Doppler results are corrupted by neglected gravitational effects of ocean and atmospheric tides on the computed satellite orbits. Initial results were reported at the General Assembly of the International Union of Geodesy and Geophysics in Canberra in 1979 and are given in Bulletin Geodesique (in press). The extension of those results given herein were reported at the 1980 Spring meeting of the American Geophysical Union in Toronto.

Source data used in the calculations for recent years were provided by the Defense Mapping Agency Hydrographic Topographic Center. Computations of earth's rotation were performed by Jan Bruce, Astronautics and Geodesy Division. This report was prepared under Defense Mapping Agency Hydrographic Topographic Center Work Order DMATC 75-005.

Released by:

R. T. RYLAND, JR., Head
Strategic Systems Department



CONTENTS

INTRODUCTION

Previous attempts to determine earth's rotational rate on the basis of Doppler observations of Navy Navigation Satellites were abandoned due to large periodic and secular errors in the results caused by the neglect of the effects of atmospheric and ocean tides on the calculated orbits of the satellites.[1] Although these effects are still neglected, the results of such computations were reexamined to determine if high-frequency variations could be extracted from the data. The first successful results were reported in Symposium 6 on the Relationship Between Variations in the Earth's Rotation and Geophysical Phenomena, held at the XVII General Assembly of the International Union of Geodesy and Geophysics held in Canberra in December 1979.[2] The results are reviewed and extended below.

METHOD OF COMPUTATION

The most accessible source of historical Doppler data for use in earth's rotation computations is the ephemeris of the satellites in an earth-fixed reference frame at 1-min intervals. The ephemeris is constructed from contiguous 48-hr independent fits to Doppler observations. The last time line in each fit is at 1440 min on alternate days, and the next time is listed at 1 min on the succeeding day. The first step in the computations is to quadratically extrapolate from the last 3 min in one orbit fit 1 min to obtain the discrepancy in satellite position and velocity from the first position available from the next orbit fit. In order to reduce the effects of higher terms in the extrapolation: (1) the position and velocities of the satellite are first converted to longitude of the node, and then to right accession in a quasi-inertial system, using a rotational rate of 1436.07 min/day; and (2) differences between extrapolated and observed "right ascensions" are recorded. First differences of the right ascensions vary from 0 to nearly 10 ms, depending on the latitude of the satellite at epoch; but second differences are well below 1 ms, which indicates that quadratic extrapolation is adequate.

The use of the above nominal rotational rate for the extrapolation is immaterial; since a quadratic fit is used in the extrapolation, a different nominal rate would simply give different coefficients of fit but the same extrapolated value. But the difference between the extrapolated and fitted

---

[1] Anderle, R. J., "Earth's Rotational Rate," *National Geodetic Satellite Program*, (U.S. Government Printing Office, 1977), p.219.

[2] Anderle, R. J. and C. Oesterwinter, "Precision of High-Frequency Variations in Earth's Rotation from Doppler Satellite Observations," *Bulletin Geodesique*, in press.

earth-fixed trajectories is partially dependent on nominal values of UT1-UTC used in the orbit fit. In computation performed to date, the nominal UT1-UTC is composed of two parts: a linear function used throughout a given year; and a step offset from the linear function, which is changed for each orbit computation to better match current BIH observations. The step offset does not affect comparisons of earth-fixed trajectories, since the offset used to bring stations to inertial space in the orbit computation is the same value used to rotate the computed inertial trajectory back to earth-fixed space. However, the linear rate is part of the model of station motion that affects relative satellite and station postions in successive orbit fits and is therefore the reference value of UT1-UTC to which comparisons of successive prediction errors apply. The nominal rates used in each orbit computation are given in Tables 1 and 2, along with results to be discussed below. The differences for successive orbit fits are accumulated to obtain a series of corrections to the assumed rate of UT1-UTC, which can be compared to BIH data except for a common offset equal to the value of UT1-UTC for the first orbit fit of the year.

In order to compare high-frequency variations in UT1-UTC determined by classical methods with those determined by Doppler methods, a six-parameter least squares fit was made to each set of data. The astronomical data were taken from Table 6 of the annual report when it was available and from Circulaire D for the 1979 data. The time span of the astronomical data used in the fit was limited to the span of Doppler data analyzed. The six parameters included a constant, a linear rate, and the coefficients of annual and semi-annual terms. In instances when the Doppler data span was significantly shorter than a year, the coefficients were physically meaningless, since they become more correlated. However, it is still useful to compare residuals from the respective fitted curves. Since the Doppler coefficients are believed to be corrupted by the neglect of the effects of ocean and atmospheric tides on the satellite orbit, the residuals of the Doppler data from the six-parameter fit were added to the curve defined by the six-parameter fit to the BIH data. These results were provided to the Bureau International de L'Heure for publication in its annual report.

RESULTS

The rates and periodic coefficients found by fitting to data from various satellites observed in 1973-1979 are given in Tables 1 and 2, together with coefficients fit to BIH data. The differences in the periodic coefficients are as high as 9 ms, even for the years with nearly complete data. Despite these large differences, the residuals with respect to the respective six-parameter fit show a striking similarity in the sample results shown in Figure 1. Periodic variations of 2 to 3 ms (a 90-day period in 1976 and 120 days in 1977) are found in both the Doppler and astronomical results. Correlation of higher-frequency variations of 10 days or so is rare enough to be accidental. While the smoothing of the BIH data could reduce the amplitudes of effects at high frequencies, Doppler data from different satellites only occasionally show high-frequency correlation. Figures 2 through 8 compare residuals on expanded

Table 1. Coefficients of Fit to UT1-UTC, Fit to Doppler Data

Year	Satellite	Days	Doppler Reference*		Coefficients of Fit**					
						Semiannual		Annual		
			Constant	Rate	Constant	Sin	Cos	Sin	Cos	Rate
1973	1967-92A	5-363	846.0	-2.8700	-3.0	-3.8	0.5	-20.7	6.7	-0.672
1974	1967-92A	4-84	700.0	-3.0000	809.7	102.5	131.9	414.4	-933.3	-12.584
1974	1970-67A	92-362	700.0	-3.0000	-32.8	13.0	-18.1	-12.1	6.9	0.328
1975	1973-81A	16-362	670.0	-2.8200	-23.4	11.5	5.1	-23.8	7.4	0.647
1976	1967-34A	158-364	749.0	-2.6680	69.7	1.0	2.7	-23.4	6.5	-0.391
1976	1970-67A	9-363	749.0	-2.6680	11.6	14.1	-13.9	-8.3	-1.3	-0.340
1976	1973-81A	4-150	749.0	-2.6680	-63.9	1.2	4.1	5.6	55.8	0.684
1977	1970-67A	10-364	705.3	-2.7489	13.7	18.3	-16.4	-22.3	-4.4	-0.165
1977	1973-81A	95-365	705.3	-2.7489	-4.8	28.1	4.0	-20.6	17.9	0.416
1978	1970-67A	8-260	702.0	-2.7489	6.0	19.0	-13.6	-31.5	13.5	-0.219
1978	1973-81A	10-364	702.0	-2.7489	-37.5	23.0	8.0	-26.9	23.1	0.417
1979	1967-92A	79-297	698.7	-2.7489	-84.1	31.3	-6.7	12.0	18.6	0.625
1979	1970-67A	10-290	698.7	-2.7489	-2.7	14.9	-14.9	-17.6	15.0	-0.035

* Epochs of reference drift are on day 0 for all years

** Epochs of fit coefficients are on
day 1 for years 1973-1976
day 0 for years 1977-1979

Table 2. Coefficients fo Fit to UT1-UTC, Fit to BIH Data

Year	Satellite	Days	Coefficients of Fit*					
				Semiannual		Annual		
			Constant	Sin	Cos	Sin	Cos	Rate
1973	1967-92A	6-361	799.9	7.7	-4.3	-18.0	-13.7	-3.064
1974	1967-92A	6-81	2500.0	37.3	406.4	2069.3	-2201.6	-40.863
1974	1970-67A	96-361	723.9	10.5	-4.5	-21.4	19.0	-2.833
1975	1973-81A	16-362	705.8	7.5	-7.4	-21.7	7.6	-2.695
1976	1967-34A	161-361	762.6	15.4	-5.8	-13.0	19.1	-3.041
1976	1970-67A	11-361	725.0	11.2	-6.6	-11.9	5.4	-2.902
1976	1973-81A	6-146	791.4	13.9	-1.5	12.3	-59.2	-3.828
1977	1970-67A	11-361	665.6	11.9	-9.4	-19.6	5.8	-2.747
1977	1973-81A	96-361	689.0	12.6	-6.1	-26.5	14.0	-2.852
1978	1970-67A	11-256	658.5	9.3	-8.7	-38.9	6.7	-3.056
1978	1973-81A	11-361	635.3	9.2	-4.0	-27.2	18.8	-2.884
1979	1967-92A	81-296	594.1	5.6	-5.5	-24.7	14.8	-2.697
1979	1970-67A	11-286	588.5	5.8	-6.1	-22.4	13.8	-2.669

* Epochs of fit coefficients are on
day 1 for years 1973-1976
day 0 for years 1977-1979

scale for BIH and various satellites for the years 1973-1979. While the discrepancies in the results are more evident than the consistencies, there are a number of striking features. For example, in May of 1976 and 1978, Doppler results from two satellites show a change in UT1-UTC of 10 msec in about 15 days with respect to the six-parameter fit, which is in reasonable agreement with the BIH. The more erratic Doppler results appear to be associated with higher atmospheric drag effects on the satellites. The approximate perigee heights of the satellite are as follows:

Satellite	Perigee Height
1973-81A	893 Km
1970-67A	960 Km
Others	1023-1068 Km

This range of perigee heights and variations in solar activity is sufficient to cause significantly different drag effects. The new series of Navy Navigation Satellites, called NOVA, will have a drag compensating device that would improve results. Detailed listings of the results are given in Tables 3-15.

CONCLUSION

Doppler satellite observations show variations in UT1-UTC of about 2 ms with periods of 90 to 120 days, which agree well with astronomical results. Occasional changes of 10 ms in about 15 days also are in reasonable agreement with astronomical results. Improved Doppler results can be expected from improved satellites and computational procedures in the future.

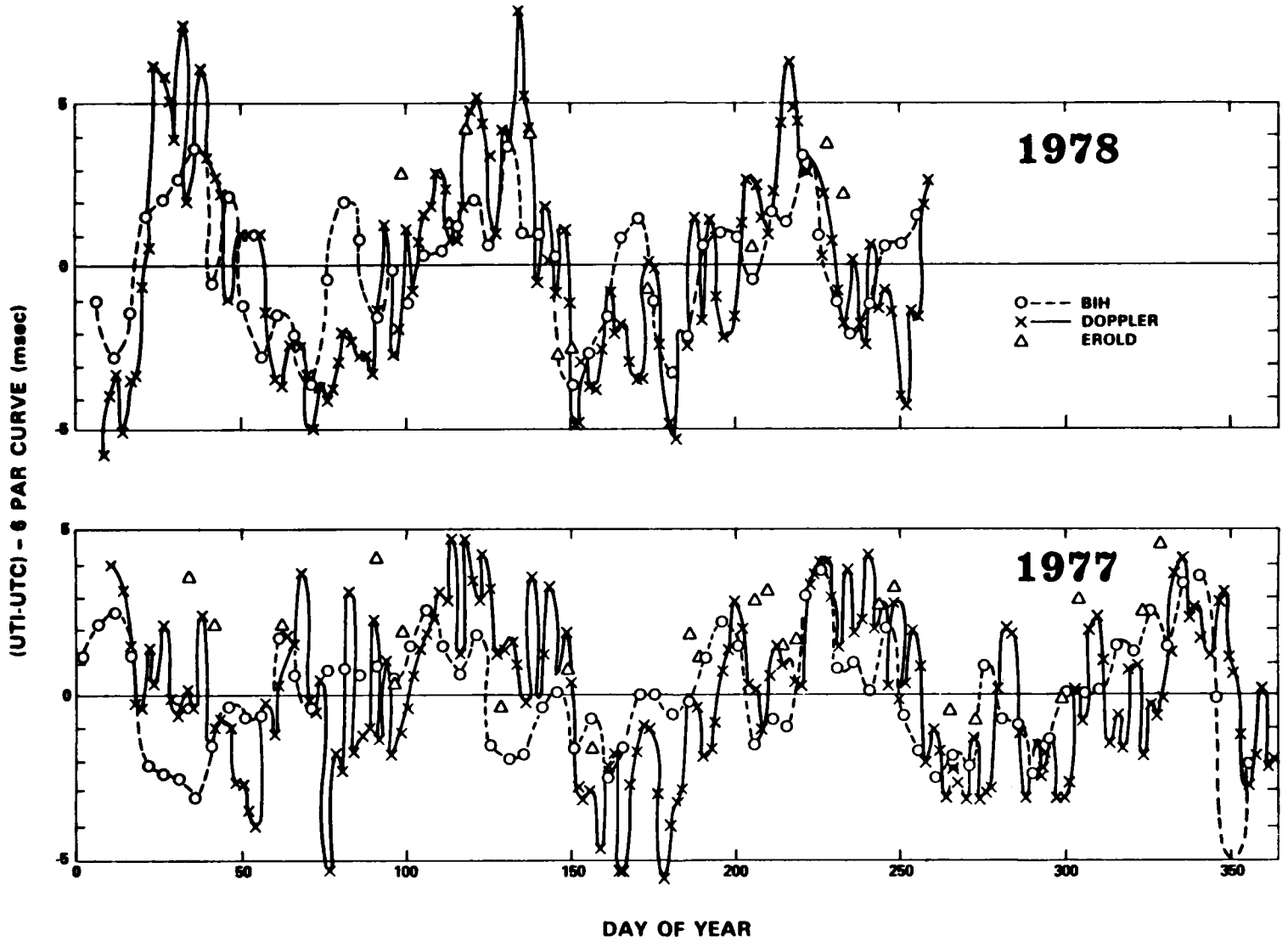


Figure 1. Residuals in UT1-UTC With Respect to Six-Parameter Fit Curves

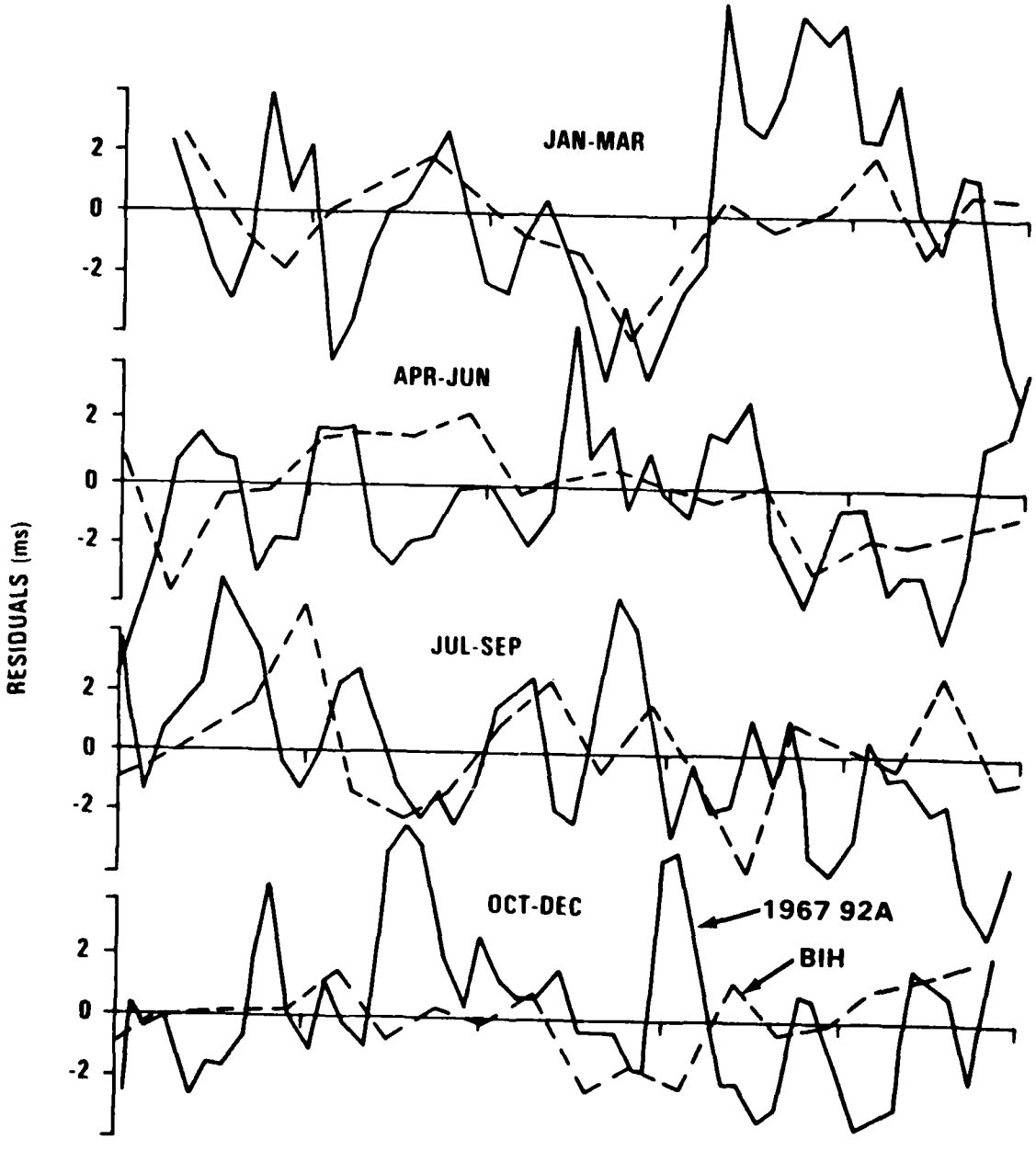


Figure 2. 1973 Residuals of UT1-UTC With Respect to Six-Parameter Curves

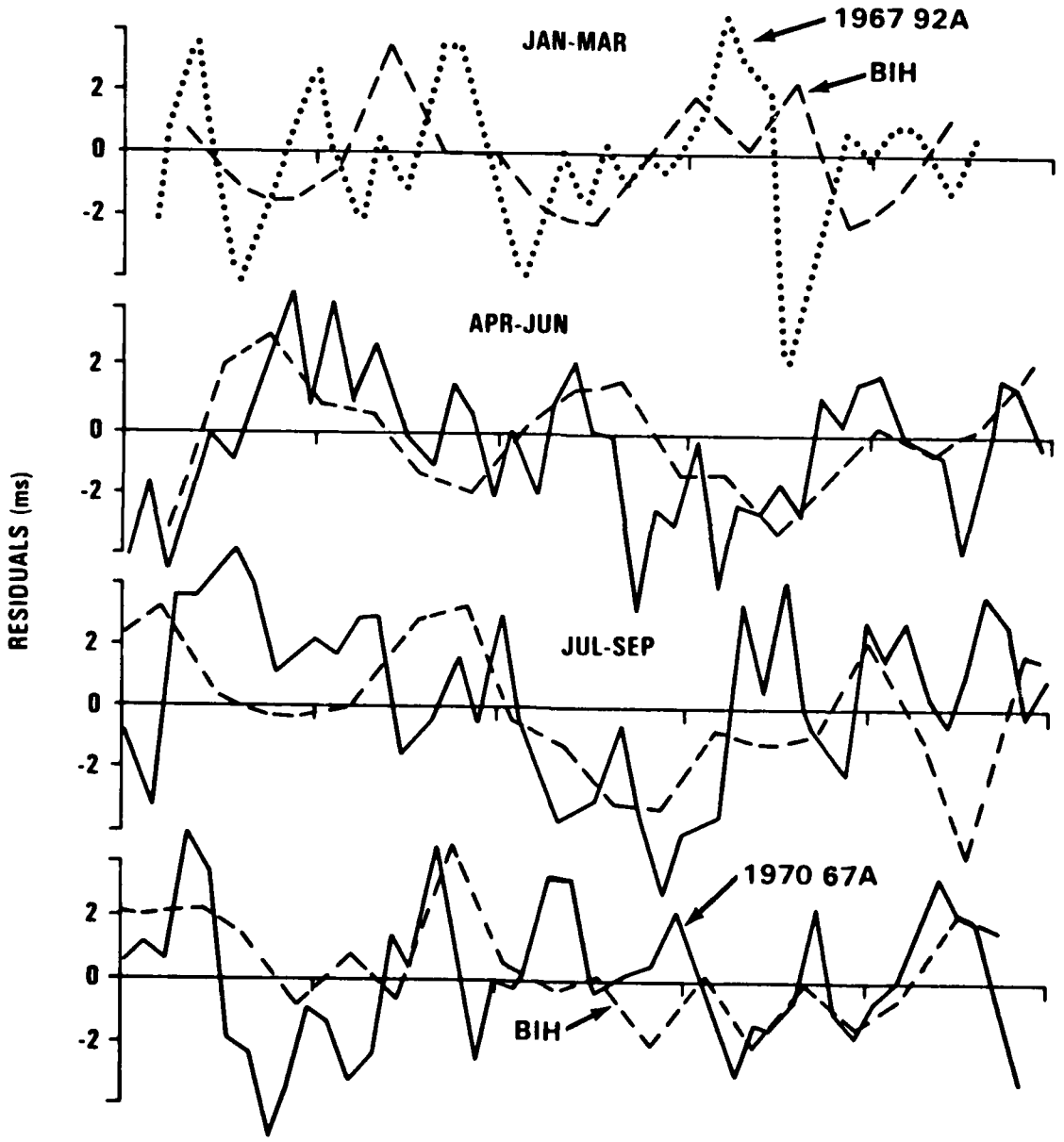


Figure 3. 1974 Residuals of UT1-UTC With Respect to Six-Parameter Curves

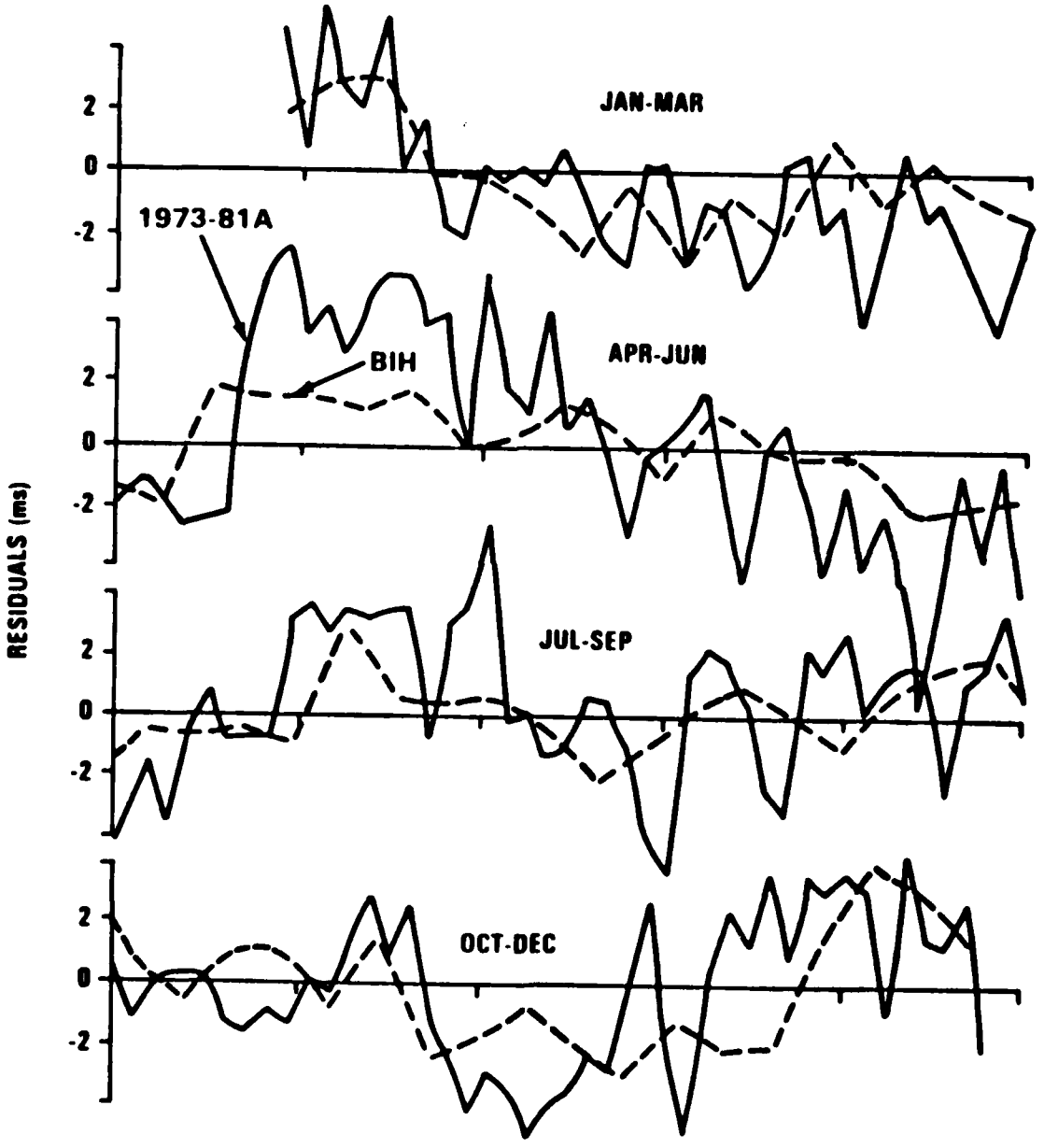


Figure 4. 1975 Residuals of UT1-UTC With Respect to Six-Parameter Curves

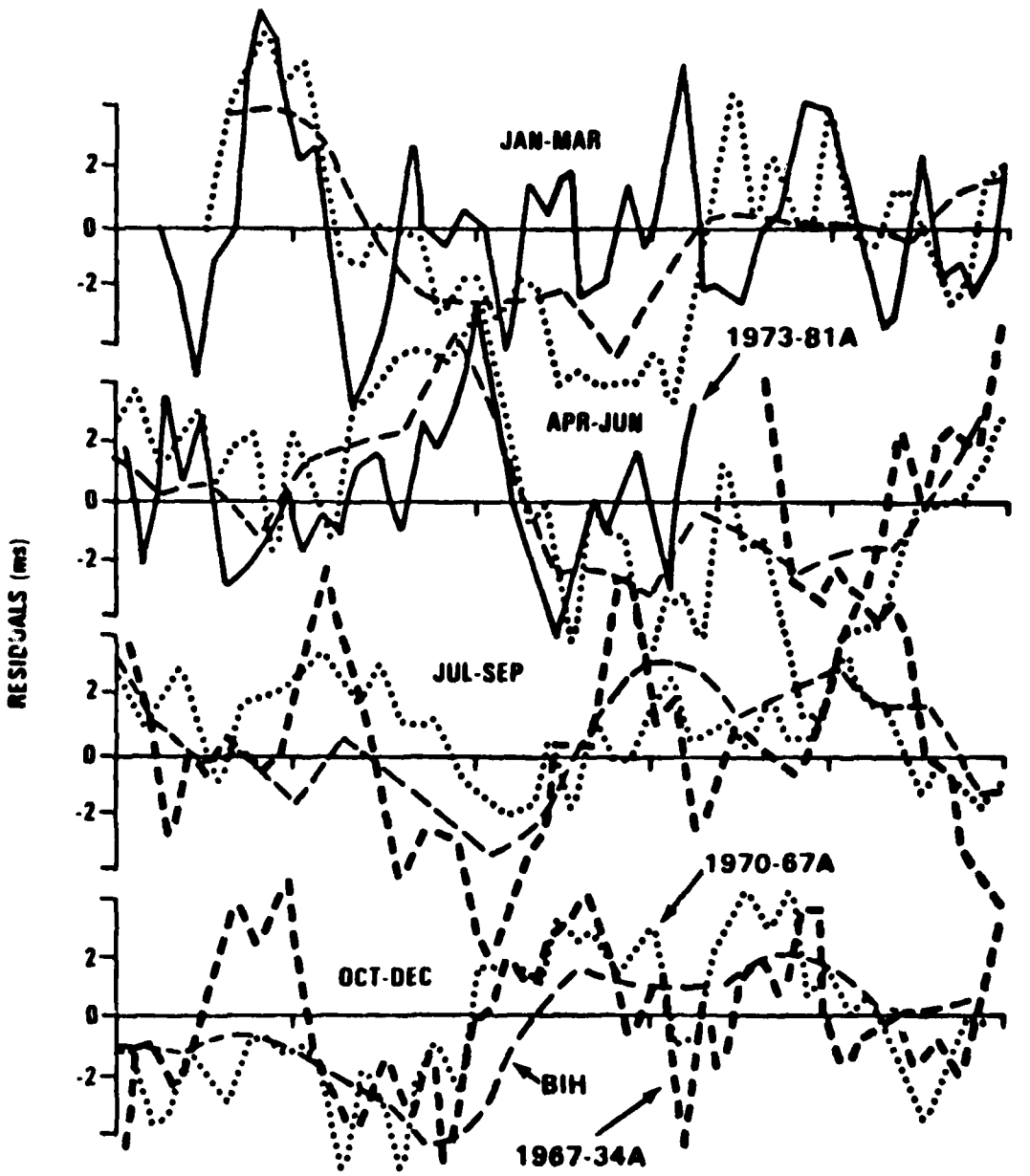


Figure 5. 1976 Residuals of UT1-UTC With Respect to Six-Parameter Curves

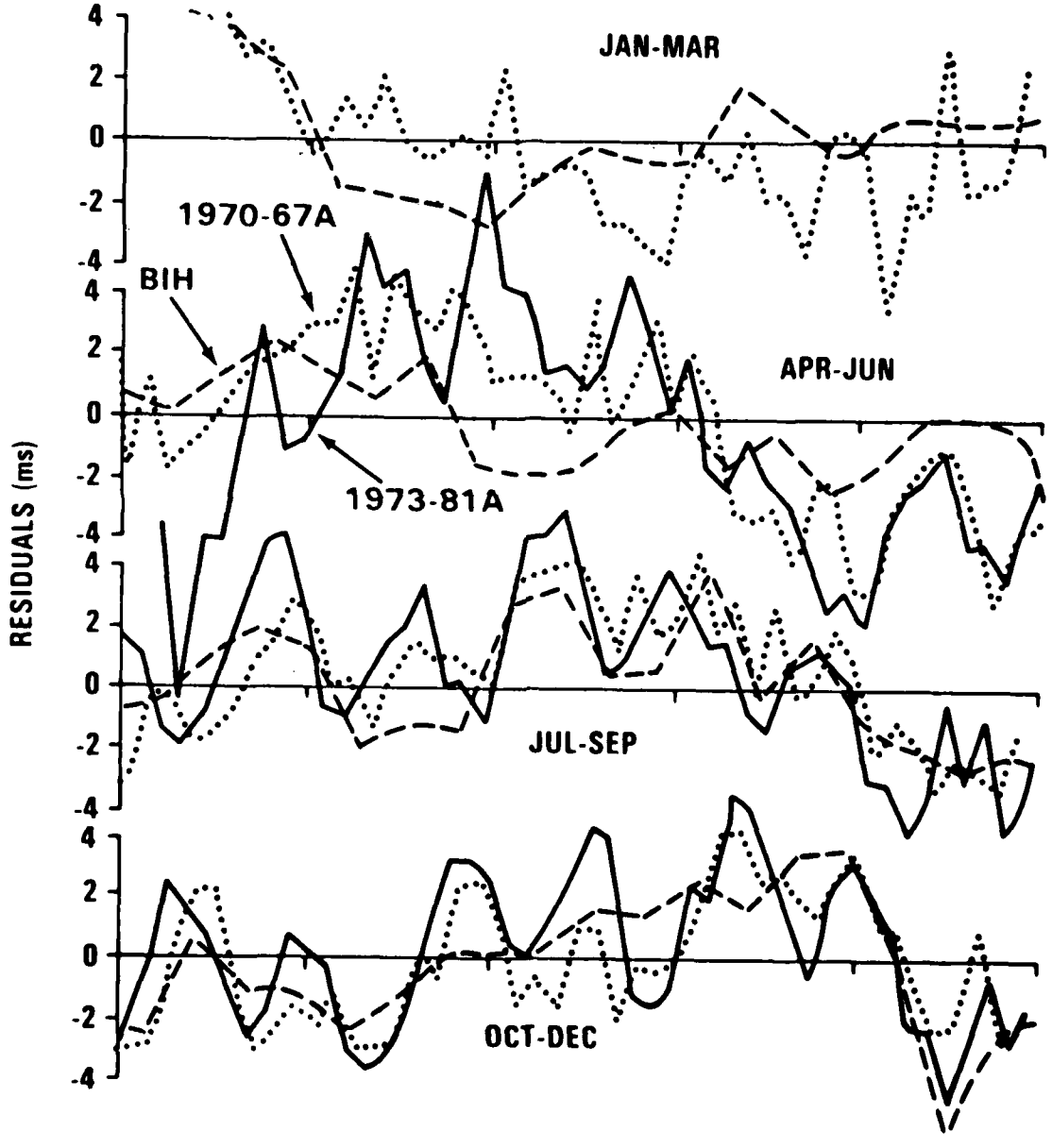


Figure 6. 1977 Residuals of UT1-UTC With Respect to Six-Parameter Curves

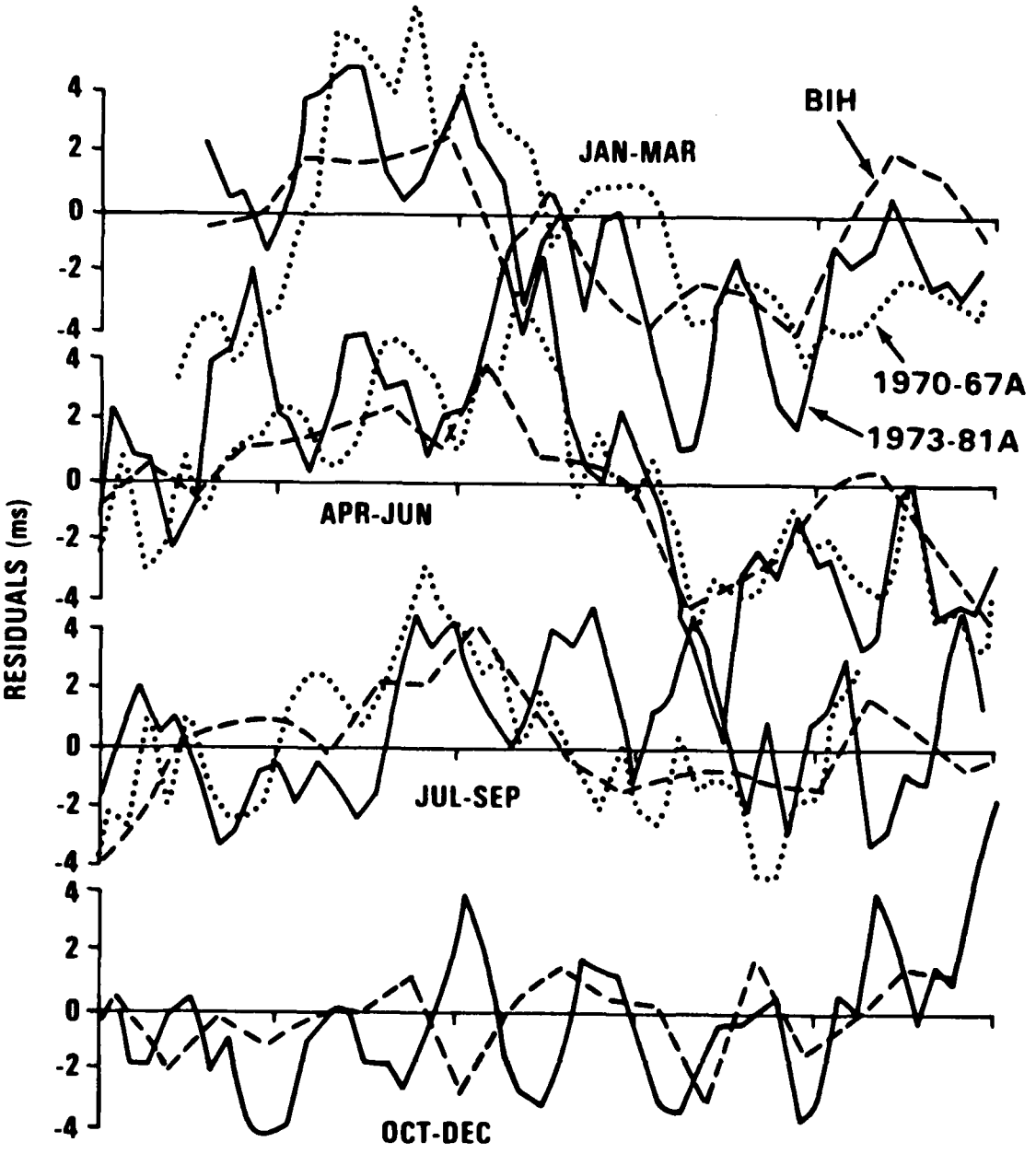


Figure 7. 1978 Residuals of UT1-UTC With Respect to Six-Parameter Curves

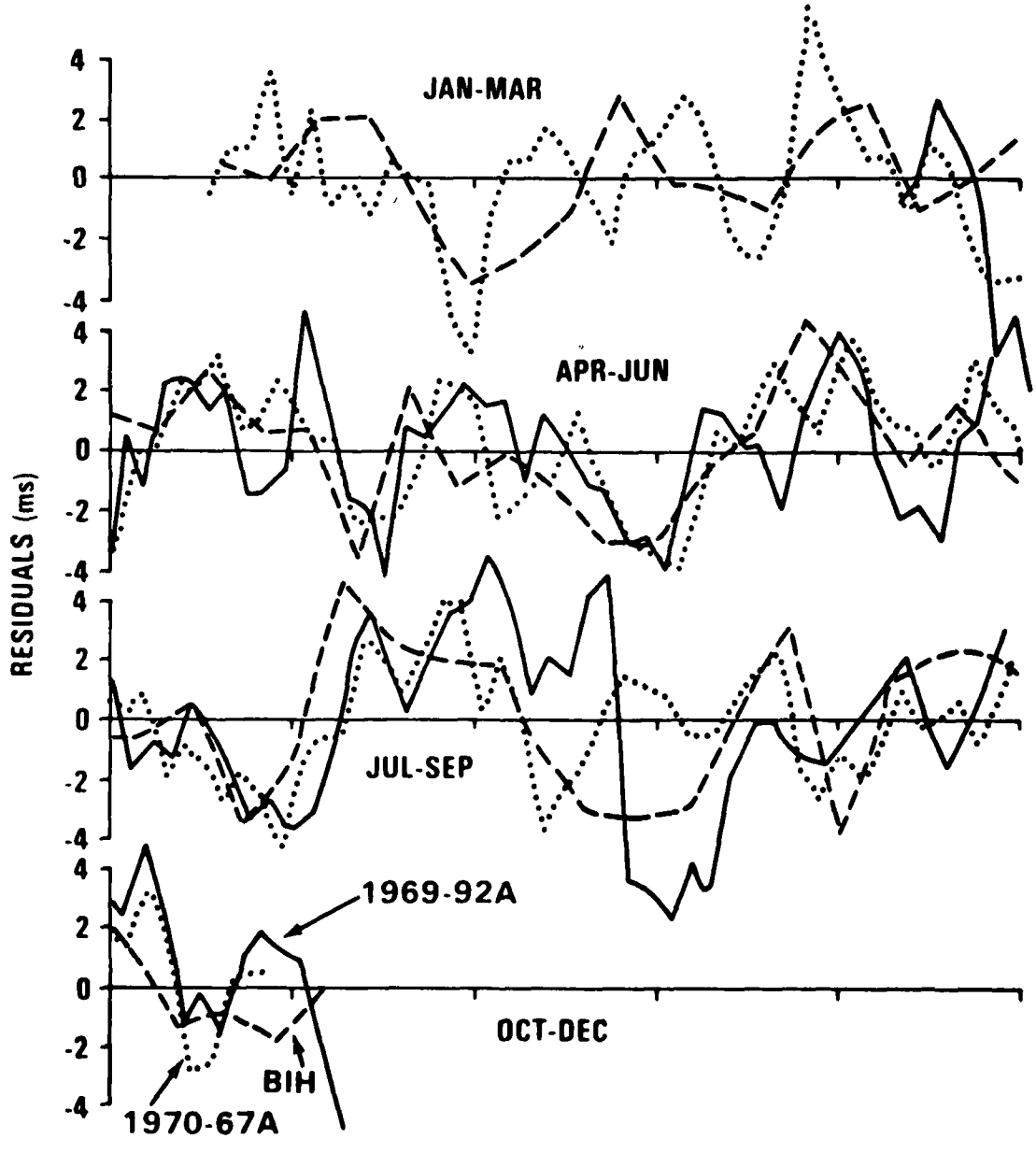


Figure 8. 1979 Residuals of UT1-UTC With Respect to Six-Parameter Curves

Table 3. Doppler Satellite UT-1 Service, Report No. 7, 11 May 1980

DOPPLER RESULTS REFERRED TC 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
73. 6.
73. 364.

PERIODIC CORRECTIONS TO DATA

	PERIOD	SINE	COSINE
OPTICAL	1.000	7.704	-4.271
DOPPLER	1.000	0.000	0.000

	CONSTANT	SEMI-ANNUAL SIN	SEMI-ANNUAL COS	ANNUAL COEFF SIN	ANNUAL COEFF COS	DRIFT
OPTICAL	799.948	0.000	0.000	-17.983	13.721	-3.064
DOPPLER	-2.976	0.000	0.000	-20.689	6.666	-.672

YEAR	DAY	UT1-UTC	FIT	SPAN	BIH SRC	SAT NO
73	6	796.6	5.	363.	6	60
73	8	788.5	5.	363.	6	60
73	10	779.9	5.	363.	6	60
73	12	772.5	5.	363.	6	60
73	14	768.0	5.	363.	6	60
73	16	766.9	5.	363.	6	60
73	18	757.3	5.	363.	6	60
73	20	752.7	5.	363.	6	60
73	22	739.1	5.	363.	6	60
73	24	734.3	5.	363.	6	60
73	26	730.2	5.	363.	6	60
73	28	725.1	5.	363.	6	60
73	30	719.3	5.	363.	6	60
73	32	714.0	5.	363.	6	60
73	34	708.7	5.	363.	6	60
73	36	699.9	5.	363.	6	60
73	38	690.9	5.	363.	6	60
73	40	684.2	5.	363.	6	60
73	42	679.5	5.	363.	6	60
73	44	674.2	5.	363.	6	60
73	46	666.2	5.	363.	6	60
73	48	657.6	5.	363.	6	60
73	50	648.2	5.	363.	6	60
73	52	644.1	5.	363.	6	60
73	54	634.7	5.	363.	6	60
73	56	629.2	5.	363.	6	60
73	58	624.3	5.	363.	6	60
73	60	618.5	5.	363.	6	60
73	62	620.6	5.	363.	6	60
73	64	609.5	5.	363.	6	60
73	66	602.0	5.	363.	6	60
73	68	596.5	5.	363.	6	60
73	70	592.1	5.	363.	6	60
73	72	584.2	5.	363.	6	60
73	74	577.9	5.	363.	6	60
73	76	566.9	5.	363.	6	60
73	78	559.7	5.	363.	6	60
73	80	554.7	5.	363.	6	60
73	82	543.5	5.	363.	6	60
73	84	534.6	5.	363.	6	60

Table 3. Doppler Satellite UT-1 Service, Report No. 7, 11 May 1980 (Continued)

73	86	530.5	5.	363.	6	60
73	88	523.0	5.	363.	6	60
73	90	511.1	5.	363.	6	60
73	92	501.5	5.	363.	6	60
73	94	495.8	5.	363.	6	60
73	96	490.8	5.	363.	6	60
73	98	487.2	5.	363.	6	60
73	100	480.8	5.	363.	6	60
73	102	473.0	5.	363.	6	60
73	104	465.6	5.	363.	6	60
73	106	454.9	5.	363.	6	60
73	108	449.0	5.	363.	6	60
73	110	441.9	5.	363.	6	60
73	112	438.8	5.	363.	6	60
73	114	431.8	5.	363.	6	60
73	116	425.0	5.	363.	6	60
73	118	414.0	5.	363.	6	60
73	120	406.7	5.	363.	6	60
73	122	400.6	5.	363.	6	60
73	124	394.1	5.	363.	6	60
73	126	388.8	5.	363.	6	60
73	128	382.4	5.	363.	6	60
73	130	375.8	5.	363.	6	60
73	132	368.1	5.	363.	6	60
73	134	360.7	5.	363.	6	60
73	136	355.6	5.	363.	6	60
73	138	355.5	5.	363.	6	60
73	140	344.6	5.	363.	6	60
73	142	339.6	5.	363.	6	60
73	144	330.7	5.	363.	6	60
73	146	326.6	5.	363.	6	60
73	148	318.9	5.	363.	6	60
73	150	312.2	5.	363.	6	60
73	152	309.3	5.	363.	6	60
73	154	303.2	5.	363.	6	60
73	156	299.0	5.	363.	6	60
73	158	289.0	5.	363.	6	60
73	160	281.7	5.	363.	6	60
73	162	275.0	5.	363.	6	60
73	164	271.2	5.	363.	6	60
73	166	267.6	5.	363.	6	60
73	168	262.2	5.	363.	6	60
73	170	253.7	5.	363.	6	60
73	172	249.3	5.	363.	6	60
73	174	244.1	5.	363.	6	60
73	176	236.6	5.	363.	6	60
73	178	233.7	5.	363.	6	60
73	180	232.7	5.	363.	6	60
73	182	228.2	5.	363.	6	60
73	184	225.5	5.	363.	6	60

Table 3. Doppler Satellite UT-1 Service, Report No. 7, 11 May 1980 (Continued)

73 186	215.3	5.	363.	6	60
73 188	212.5	5.	363.	6	60
73 190	208.3	5.	363.	6	60
73 192	204.3	5.	363.	6	60
73 194	203.1	5.	363.	6	60
73 196	196.9	5.	363.	6	60
73 198	190.8	5.	363.	6	60
73 200	182.7	5.	363.	6	60
73 202	176.6	5.	363.	6	60
73 204	173.0	5.	363.	6	60
73 206	170.7	5.	363.	6	60
73 208	166.5	5.	363.	6	60
73 210	159.9	5.	363.	6	60
73 212	152.8	5.	363.	6	60
73 214	146.9	5.	363.	6	60
73 216	143.0	5.	363.	6	60
73 218	137.0	5.	363.	6	60
73 220	133.6	5.	363.	6	60
73 222	131.1	5.	363.	6	60
73 224	126.7	5.	363.	6	60
73 226	122.2	5.	363.	6	60
73 228	112.7	5.	363.	6	60
73 230	107.2	5.	363.	6	60
73 232	106.4	5.	363.	6	60
73 234	104.9	5.	363.	6	60
73 236	98.3	5.	363.	6	60
73 238	89.8	5.	363.	6	60
73 240	80.7	5.	363.	6	60
73 242	77.8	5.	363.	6	60
73 244	71.1	5.	363.	6	60
73 246	65.8	5.	363.	6	60
73 248	63.3	5.	363.	6	60
73 250	55.3	5.	363.	6	60
73 252	52.2	5.	363.	6	60
73 254	41.9	5.	363.	6	60
73 256	35.4	5.	363.	6	60
73 258	30.8	5.	363.	6	60
73 260	28.4	5.	363.	6	60
73 262	21.3	5.	363.	6	60
73 264	15.6	5.	363.	6	60
73 266	8.4	5.	363.	6	60
73 268	2.6	5.	363.	6	60
73 270	-6.7	5.	363.	6	60
73 272	-14.1	5.	363.	6	60
73 274	-17.7	5.	363.	6	60
73 276	-19.7	5.	363.	6	60
73 278	-27.0	5.	363.	6	60
73 280	-32.9	5.	363.	6	60
73 282	-42.0	5.	363.	6	60
73 284	-46.9	5.	363.	6	60

Table 3. Doppler Satellite UT-1 Service, Report No. 7, 11 May 1980 (Continued)

73 286	-53.5	5.	363.	6	60
73 288	-58.9	5.	363.	6	60
73 290	-59.8	5.	363.	6	60
73 292	-70.6	5.	363.	6	60
73 294	-78.9	5.	363.	6	60
73 296	-83.0	5.	363.	6	60
73 298	-90.9	5.	363.	6	60
73 300	-98.3	5.	363.	6	60
73 302	-98.2	5.	363.	6	60
73 304	-103.7	5.	363.	6	60
73 306	-110.9	5.	363.	6	60
73 308	-121.3	5.	363.	6	60
73 310	-129.6	5.	363.	6	60
73 312	-133.8	5.	363.	6	60
73 314	-141.8	5.	363.	6	60
73 316	-149.0	5.	363.	6	60
73 318	-155.3	5.	363.	6	60
73 320	-160.9	5.	363.	6	60
73 322	-169.7	5.	363.	6	60
73 324	-176.1	5.	363.	6	60
73 326	-182.7	5.	363.	6	60
73 328	-190.6	5.	363.	6	60
73 330	-189.8	5.	363.	6	60
73 332	-195.8	5.	363.	6	60
73 334	-206.1	5.	363.	6	60
73 336	-216.7	5.	363.	6	60
73 338	-223.0	5.	363.	6	60
73 340	-230.8	5.	363.	6	60
73 342	-236.8	5.	363.	6	60
73 344	-239.1	5.	363.	6	60
73 346	-245.9	5.	363.	6	60
73 348	-254.0	5.	363.	6	60
73 350	-262.8	5.	363.	6	60
73 352	-268.7	5.	363.	6	60
73 354	-274.7	5.	363.	6	60
73 356	-276.2	5.	363.	6	60
73 358	-283.0	5.	363.	6	60
73 360	-289.8	5.	363.	6	60
73 362	-298.8	5.	363.	6	60
73 364	-300.9	5.	363.	6	60

Table 4. Doppler Satellite UT-1 Service, Report Number 8, 11 May 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
74. 5.
74. 85.

		CONSTANT	SEMI-ANNUAL SIN	SEMI-ANNUAL COS	ANNUAL COEFF SIN	ANNUAL COEFF COS	DRIFT
OPTICAL		2500.041	37.251	406.404	2069.325	-2201.576	-40.863
DOPPLER		809.724	102.517	131.882	414.373	-933.255	-12.584
YEAR	DAY	UT1-UTC	FIT SPAN	BIH SRC	SAT NO		
74	5	688.0	4. 84.	6	60		
74	7	686.4	4. 84.	6	60		
74	9	681.9	4. 84.	6	60		
74	11	671.2	4. 84.	6	60		
74	13	662.2	4. 84.	6	60		
74	15	658.9	4. 84.	6	60		
74	17	655.5	4. 84.	6	60		
74	19	653.2	4. 84.	6	60		
74	21	649.2	4. 84.	6	60		
74	23	641.0	4. 84.	6	60		
74	25	634.7	4. 84.	6	60		
74	27	632.5	4. 84.	6	60		
74	29	626.1	4. 84.	6	60		
74	31	622.2	4. 84.	6	60		
74	33	620.6	4. 84.	6	60		
74	35	614.9	4. 84.	6	60		
74	37	607.6	4. 84.	6	60		
74	39	599.4	4. 84.	6	60		
74	41	591.6	4. 84.	6	60		
74	43	587.6	4. 84.	6	60		
74	45	584.5	4. 84.	6	60		
74	47	577.0	4. 84.	6	60		
74	49	573.4	4. 84.	6	60		
74	51	566.3	4. 84.	6	60		
74	53	561.3	4. 84.	6	60		
74	55	555.1	4. 84.	6	60		
74	57	549.9	4. 84.	6	60		
74	59	545.5	4. 84.	6	60		
74	61	542.2	4. 84.	6	60		
74	63	534.3	4. 84.	6	60		
74	65	527.7	4. 84.	6	60		
74	67	512.7	4. 84.	6	60		
74	69	518.6	4. 84.	6	60		
74	71	506.5	4. 84.	6	60		
74	73	502.3	4. 84.	6	60		
74	75	495.2	4. 84.	6	60		
74	77	490.0	4. 84.	6	60		
74	79	483.6	4. 84.	6	60		
74	81	476.4	4. 84.	6	60		
74	83	468.0	4. 84.	6	60		
74	85	462.7	4. 84.	6	60		

Table 5. Doppler Satellite UT-1 Service, Report Number 9, 11 May 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT TO OPTICAL DATA FOR PERIOD YEAR DAY 74. 93. 74. 363.

			SEMI-ANNUAL		ANNUAL COEFF		
	CONSTANT	SIN	COS	SIN	COS	DRIFT
OPTICAL	723.947	10.550	-4.477	-21.396	18.968	-2.833
DOPPLER	-32.820	13.042	-18.116	-12.159	6.883	.328

YEAR	DAY	UT1-UTC	FIT SPAN		BIH SRC	SAT NO
74	93	441.6	92.	362.	6	68
74	95	437.2	92.	362.	6	68
74	97	427.1	92.	362.	6	68
74	99	422.3	92.	362.	6	68
74	101	417.8	92.	362.	6	68
74	103	409.8	92.	362.	6	68
74	105	404.3	92.	362.	6	68
74	103	409.8	92.	362.	6	68
74	105	404.3	92.	362.	6	68
74	103	409.8	92.	362.	6	68
74	105	404.3	92.	362.	6	68
74	107	399.9	92.	362.	6	68
74	109	394.5	92.	362.	6	68
74	107	399.9	92.	362.	6	68
74	109	394.5	92.	362.	6	68
74	111	384.0	92.	362.	6	68
74	113	380.6	92.	362.	6	68
74	115	370.6	92.	362.	6	68
74	117	365.8	92.	362.	6	68
74	119	357.8	92.	362.	6	68
74	117	365.8	92.	362.	6	68
74	119	357.6	92.	362.	6	68
74	121	349.3	92.	362.	6	68
74	123	342.0	92.	362.	6	68
74	125	338.4	92.	362.	6	68
74	127	330.9	92.	362.	6	68
74	129	322.1	92.	362.	6	68
74	131	318.0	92.	362.	6	68
74	133	309.8	92.	362.	6	68
74	135	306.8	92.	362.	6	68
74	137	302.1	92.	362.	6	68
74	139	293.8	92.	362.	6	68
74	141	287.6	92.	362.	6	68
74	143	276.0	92.	362.	6	68
74	145	274.1	92.	362.	6	68
74	147	267.8	92.	362.	6	68
74	149	265.3	92.	362.	6	68
74	151	254.8	92.	362.	6	68
74	153	252.6	92.	362.	6	68
74	155	247.0	92.	362.	6	68

Table 5. Doppler Satellite UT-1 Service, Report Number 9, 11 May 1980 (Continued)

74 157	242.9	92.	362.	6	68
74 159	236.6	92.	362.	6	68
74 161	235.8	92.	362.	6	68
74 163	229.9	92.	362.	6	68
74 165	226.4	92.	362.	6	66
74 167	221.9	92.	362.	6	68
74 169	215.7	92.	362.	6	68
74 171	210.2	92.	362.	6	68
74 173	205.6	92.	362.	6	68
74 175	197.8	92.	362.	6	68
74 177	195.9	92.	362.	6	68
74 179	195.0	92.	362.	6	68
74 181	190.2	92.	362.	6	68
74 183	183.6	92.	362.	6	68
74 185	178.9	92.	362.	6	68
74 187	172.5	92.	362.	6	68
74 189	175.6	92.	362.	6	68
74 191	171.6	92.	362.	6	68
74 193	168.2	92.	362.	6	68
74 195	164.9	92.	362.	6	68
74 197	159.6	92.	362.	6	68
74 199	152.8	92.	362.	6	68
74 201	149.3	92.	362.	6	68
74 203	146.0	92.	362.	6	68
74 205	141.3	92.	362.	6	68
74 207	138.7	92.	362.	6	68
74 209	134.7	92.	362.	6	68
74 211	126.1	92.	362.	6	68
74 213	122.6	92.	362.	6	68
74 215	119.5	92.	362.	6	68
74 217	117.1	92.	362.	6	68
74 219	110.8	92.	362.	6	68
74 221	110.1	92.	362.	6	68
74 223	102.4	92.	362.	6	68
74 225	96.3	92.	362.	6	68
74 227	90.7	92.	362.	6	68
74 229	86.8	92.	362.	6	68
74 231	82.9	92.	362.	6	68
74 233	80.9	92.	362.	6	68
74 235	73.0	92.	362.	6	68
74 237	66.2	92.	362.	6	68
74 239	63.7	92.	362.	6	68
74 241	59.0	92.	362.	6	68
74 243	54.8	92.	362.	6	68
74 245	56.9	92.	362.	6	68
74 247	48.9	92.	362.	6	68
74 249	47.7	92.	362.	6	68
74 251	38.6	92.	362.	6	68
74 253	32.2	92.	362.	6	68
74 255	26.2	92.	362.	6	68
74 257	26.0	92.	362.	6	68
74 259	19.4	92.	362.	6	68
74 261	15.5	92.	362.	6	68

Table 5. Doppler Satellite UT-1 Service, Report Number 9, 11 May 1980 (Continued)

74 263	7.6	92.	362.	6	68
74 265	1.0	92.	362.	6	68
74 267	-2.9	92.	362.	6	68
74 269	-5.7	92.	362.	6	68
74 271	-12.3	92.	362.	6	68
74 273	-21.1	92.	362.	6	68
74 275	-25.6	92.	362.	6	68
74 277	-31.1	92.	362.	6	68
74 279	-37.3	92.	362.	6	68
74 281	-39.1	92.	362.	6	68
74 283	-46.3	92.	362.	6	68
74 285	-57.7	92.	362.	6	68
74 287	-64.0	92.	362.	6	68
74 289	-72.8	92.	362.	6	68
74 291	-77.0	92.	362.	6	68
74 293	-80.5	92.	362.	6	68
74 295	-87.1	92.	362.	6	68
74 297	-95.2	92.	362.	6	68
74 299	-100.2	92.	362.	6	68
74 301	-102.5	92.	362.	6	68
74 303	-110.0	92.	362.	6	68
74 305	-111.9	92.	362.	6	68
74 307	-120.2	92.	362.	6	68
74 309	-131.2	92.	362.	6	68
74 311	-134.7	92.	362.	6	68
74 313	-140.9	92.	362.	6	68
74 315	-146.2	92.	362.	6	68
74 317	-149.1	92.	362.	6	68
74 319	-155.6	92.	362.	6	68
74 321	-165.2	92.	362.	6	68
74 323	-171.1	92.	362.	6	68
74 325	-176.6	92.	362.	6	68
74 327	-182.3	92.	362.	6	68
74 329	-186.7	92.	362.	6	68
74 331	-194.2	92.	362.	6	68
74 333	-202.0	92.	362.	6	68
74 335	-209.8	92.	362.	6	68
74 337	-213.8	92.	362.	6	68
74 339	-219.9	92.	362.	6	68
74 341	-224.9	92.	362.	6	68
74 343	-227.4	92.	362.	6	68
74 345	-237.0	92.	362.	6	68
74 347	-243.5	92.	362.	6	68
74 349	-248.0	92.	362.	6	68
74 351	-253.1	92.	362.	6	68
74 353	-257.0	92.	362.	6	68
74 355	-261.2	92.	362.	6	68
74 357	-268.0	92.	362.	6	68
74 359	-274.4	92.	362.	6	68
74 361	-282.8	92.	362.	6	68
74 363	-290.8	92.	362.	6	68

Table 6. Doppler Satellite UT-1 Service, Report Number 10, 11 May 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
75. 17.
75. 363.

			SEMI-ANNUAL		ANNUAL COEFF		
	CONSTANT	SIN	COS	SIN	COS	DRIFT
OPTICAL	705.802	7.501	-7.361	-21.663	7.619	-2.695
DOPPLER	-23.391	11.489	5.059	-23.836	7.407	.647

YEAR	DAY	UT1-UTC	FIT	SPAN	BIH SRC	SAT NO
75	17	666.4	16.	362.	6	77
75	19	656.9	16.	362.	6	77
75	21	656.1	16.	362.	6	77
75	23	648.2	16.	362.	6	77
75	25	641.9	16.	362.	6	77
75	27	639.4	16.	362.	6	77
75	29	629.1	16.	362.	6	77
75	31	625.2	16.	362.	6	77
75	33	616.3	16.	362.	6	77
75	35	610.3	16.	362.	6	77
75	37	607.2	16.	362.	6	77
75	39	601.4	16.	362.	6	77
75	41	596.1	16.	362.	6	77
75	43	590.0	16.	362.	6	77
75	45	585.7	16.	362.	6	77
75	47	578.7	16.	362.	6	77
75	49	571.9	16.	362.	6	77
75	51	565.0	16.	362.	6	77
75	53	562.6	16.	362.	6	77
75	55	556.9	16.	362.	6	77
75	57	547.8	16.	362.	6	77
75	59	544.2	16.	362.	6	77
75	61	537.9	16.	362.	6	77
75	63	529.7	16.	362.	6	77
75	65	524.9	16.	362.	6	77
75	67	522.2	16.	362.	6	77
75	69	516.6	16.	362.	6	77
75	71	508.1	16.	362.	6	77
75	73	502.9	16.	362.	6	77
75	75	493.0	16.	362.	6	77
75	77	490.0	16.	362.	6	77
75	79	486.6	16.	362.	6	77
75	81	478.5	16.	362.	6	77
75	83	472.9	16.	362.	6	77
75	85	465.4	16.	362.	6	77
75	87	457.9	16.	362.	6	77
75	89	450.4	16.	362.	6	77
75	91	447.1	16.	362.	6	77
75	93	441.8	16.	362.	6	77
75	95	436.1	16.	362.	6	77

Table 6. Doppler Satellite UT-1 Service, Report Number 10, 11 May 1980 (Continued)

75 97	429.1	16.	362.	6	77
75 99	422.1	16.	362.	6	77
75 101	416.1	16.	362.	6	77
75 103	410.2	16.	362.	6	77
75 105	409.7	16.	362.	6	77
75 107	405.9	16.	362.	6	77
75 109	400.5	16.	362.	6	77
75 111	391.4	16.	362.	6	77
75 113	386.2	16.	362.	6	77
75 115	378.6	16.	362.	6	77
75 117	374.5	16.	362.	6	77
75 119	369.4	16.	362.	6	77
75 121	363.2	16.	362.	6	77
75 123	355.7	16.	362.	6	77
75 125	350.1	16.	362.	6	77
75 127	339.8	16.	362.	6	77
75 129	339.6	16.	362.	6	77
75 131	330.1	16.	362.	6	77
75 133	323.5	16.	362.	6	77
75 135	321.3	16.	362.	6	77
75 137	311.7	16.	362.	6	77
75 139	307.3	16.	362.	6	77
75 141	300.1	16.	362.	6	77
75 143	291.7	16.	362.	6	77
75 145	289.0	16.	362.	6	77
75 147	284.1	16.	362.	6	77
75 149	279.5	16.	362.	6	77
75 151	275.5	16.	362.	6	77
75 153	266.4	16.	362.	6	77
75 155	259.1	16.	362.	6	77
75 157	258.5	16.	362.	6	77
75 159	254.6	16.	362.	6	77
75 161	247.3	16.	362.	6	77
75 163	240.0	16.	362.	6	77
75 165	238.2	16.	362.	6	77
75 167	231.0	16.	362.	6	77
75 169	229.1	16.	362.	6	77
75 171	221.2	16.	362.	6	77
75 173	212.7	16.	362.	6	77
75 175	212.5	16.	362.	6	77
75 177	211.9	16.	362.	6	77
75 179	204.4	16.	362.	6	77
75 181	203.7	16.	362.	6	77
75 183	195.4	16.	362.	6	77
75 185	192.4	16.	362.	6	77
75 187	190.0	16.	362.	6	77
75 189	184.2	16.	362.	6	77
75 191	183.3	16.	362.	6	77
75 193	180.5	16.	362.	6	77
75 195	175.0	16.	362.	6	77

Table 6. Doppler Satellite UT-1 Service, Report Number 10, 11 May 1980 (Continued)

75 197	171.1	16.	362.	6	77
75 199	167.3	16.	362.	6	77
75 201	167.2	16.	362.	6	77
75 203	163.9	16.	362.	6	77
75 205	159.0	16.	362.	6	77
75 207	156.0	16.	362.	6	77
75 209	151.7	16.	362.	6	77
75 211	148.1	16.	362.	6	77
75 213	144.2	16.	362.	6	77
75 215	136.0	16.	362.	6	77
75 217	136.0	16.	362.	6	77
75 219	132.6	16.	362.	6	77
75 221	131.3	16.	362.	6	77
75 223	120.9	16.	362.	6	77
75 225	117.1	16.	362.	6	77
75 227	111.6	16.	362.	6	77
75 229	107.5	16.	362.	6	77
75 231	105.2	16.	362.	6	77
75 233	100.6	16.	362.	6	77
75 235	95.9	16.	362.	6	77
75 237	87.7	16.	362.	6	77
75 239	82.1	16.	362.	6	77
75 241	84.1	16.	362.	6	77
75 243	80.5	16.	362.	6	77
75 245	75.2	16.	362.	6	77
75 247	69.3	16.	362.	6	77
75 249	61.7	16.	362.	6	77
75 251	56.1	16.	362.	6	77
75 253	56.8	16.	362.	6	77
75 255	51.2	16.	362.	6	77
75 257	47.5	16.	362.	6	77
75 259	39.6	16.	362.	6	77
75 261	35.7	16.	362.	6	77
75 263	30.9	16.	362.	6	77
75 265	25.5	16.	362.	6	77
75 267	18.0	16.	362.	6	77
75 269	14.3	16.	362.	6	77
75 271	9.5	16.	362.	6	77
75 273	5.6	16.	362.	6	77
75 275	-2.6	16.	362.	6	77
75 277	-10.5	16.	362.	6	77
75 279	-15.3	16.	362.	6	77
75 281	-20.6	16.	362.	6	77
75 283	-26.3	16.	362.	6	77
75 285	-32.4	16.	362.	6	77
75 287	-40.0	16.	362.	6	77
75 289	-46.1	16.	362.	6	77
75 291	-51.4	16.	362.	6	77
75 293	-58.1	16.	362.	6	77
75 295	-62.6	16.	362.	6	77

Table 6. Doppler Satellite UT-1 Service, Report Number 10, 11 May 1980 (Continued)

75 297	-69.3	16.	362.	6	77
75 299	-73.7	16.	362.	6	77
75 301	-78.3	16.	362.	6	77
75 303	-86.6	16.	362.	6	77
75 305	-91.0	16.	362.	6	77
75 307	-101.1	16.	362.	6	77
75 309	-108.9	16.	362.	6	77
75 311	-116.7	16.	362.	6	77
75 313	-121.6	16.	362.	6	77
75 315	-128.5	16.	362.	6	77
75 317	-136.3	16.	362.	6	77
75 319	-141.7	16.	362.	6	77
75 321	-147.4	16.	362.	6	77
75 323	-152.3	16.	362.	6	77
75 325	-159.3	16.	362.	6	77
75 327	-162.7	16.	362.	6	77
75 329	-165.6	16.	362.	6	77
75 331	-176.7	16.	362.	6	77
75 333	-186.1	16.	362.	6	77
75 335	-186.8	16.	362.	6	77
75 337	-190.7	16.	362.	6	77
75 339	-198.0	16.	362.	6	77
75 341	-201.6	16.	362.	6	77
75 343	-210.4	16.	362.	6	77
75 345	-213.5	16.	362.	6	77
75 347	-219.9	16.	362.	6	77
75 349	-225.4	16.	362.	6	77
75 351	-231.6	16.	362.	6	77
75 353	-241.6	16.	362.	6	77
75 355	-242.3	16.	362.	6	77
75 357	-250.9	16.	362.	6	77
75 359	-256.9	16.	362.	6	77
75 361	-261.0	16.	362.	6	77
75 363	-271.6	16.	362.	6	77

Table 7. Doppler Satellite UT-1 Service, Report Number 11, 11 May 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
76. 159.
76. 365.

		SEMI-ANNUAL		ANNUAL COEFF		
	CONSTANT	SIN	COS	SIN	COS	DRIFT
OPTICAL	762.649	15.368	-5.795	-13.016	19.143	-3.041
DOPPLER	69.709	.958	2.704	-23.433	6.490	-.391

YEAR DAY	UT1-UTC	FIT SPAN		BIH SRC	SAT NO
76 159	248.3	158.	364.	6	58
76 161	237.8	158.	364.	6	58
76 163	230.3	158.	364.	6	58
76 165	224.2	158.	364.	6	58
76 167	220.5	158.	364.	6	58
76 169	214.0	158.	364.	6	58
76 171	211.2	158.	364.	6	58
76 173	210.0	158.	364.	6	58
76 175	202.2	158.	364.	6	58
76 177	199.5	158.	364.	6	58
76 179	195.5	158.	364.	6	58
76 181	189.8	158.	364.	6	58
76 183	189.4	158.	364.	6	58
76 185	181.2	158.	364.	6	58
76 187	175.5	158.	364.	6	58
76 189	166.6	158.	364.	6	58
76 191	165.8	158.	364.	6	58
76 193	160.5	158.	364.	6	58
76 195	157.3	158.	364.	6	58
76 197	152.2	158.	364.	6	58
76 199	147.4	158.	364.	6	58
76 201	143.5	158.	364.	6	58
76 203	141.9	158.	364.	6	58
76 205	141.9	158.	364.	6	58
76 207	134.4	158.	364.	6	58
76 209	127.6	158.	364.	6	58
76 211	121.1	158.	364.	6	58
76 213	112.9	158.	364.	6	58
76 215	110.4	158.	364.	6	58
76 217	105.8	158.	364.	6	58
76 219	100.7	158.	364.	6	58
76 221	92.7	158.	364.	6	58
76 223	87.1	158.	364.	6	58
76 225	85.7	158.	364.	6	58
76 227	81.9	158.	364.	6	58
76 229	80.4	158.	364.	6	58
76 231	75.4	158.	364.	6	58
76 233	71.2	158.	364.	6	58
76 235	71.7	158.	364.	6	58
76 237	65.8	158.	364.	6	58

Table 7. Doppler Satellite UT-1 Service, Report Number 11, 11 May 1980 (Continued)

76 239	55.4	158.	364.	6	58
76 241	51.4	158.	364.	6	58
76 243	41.3	158.	364.	6	58
76 245	37.9	158.	364.	6	58
76 247	34.2	158.	364.	6	58
76 249	28.1	158.	364.	6	58
76 251	22.1	158.	364.	6	58
76 253	15.3	158.	364.	6	58
76 255	10.2	158.	364.	6	58
76 257	6.2	158.	364.	6	58
76 259	3.7	158.	364.	6	58
76 261	-3.6	158.	364.	6	58
76 263	-8.1	158.	364.	6	58
76 265	-16.1	158.	364.	6	58
76 267	-26.5	158.	364.	6	58
76 269	-33.2	158.	364.	6	58
76 271	-42.4	158.	364.	6	58
76 273	-49.4	158.	364.	6	58
76 275	-57.3	158.	364.	6	58
76 277	-59.3	158.	364.	6	58
76 279	-65.8	158.	364.	6	58
76 281	-74.8	158.	364.	6	58
76 283	-79.5	158.	364.	6	58
76 285	-83.6	158.	364.	6	58
76 287	-87.7	158.	364.	6	58
76 289	-95.9	158.	364.	6	58
76 291	-100.8	158.	364.	6	58
76 293	-107.8	158.	364.	6	58
76 295	-119.2	158.	364.	6	58
76 297	-127.5	158.	364.	6	58
76 299	-135.6	158.	364.	6	58
76 301	-141.3	158.	364.	6	58
76 303	-146.2	158.	364.	6	58
76 305	-154.8	158.	364.	6	58
76 307	-158.8	158.	364.	6	58
76 309	-170.3	158.	364.	6	58
76 311	-171.3	158.	364.	6	58
76 313	-177.7	158.	364.	6	58
76 315	-182.0	158.	364.	6	58
76 317	-189.9	158.	364.	6	58
76 319	-194.2	158.	364.	6	58
76 321	-200.1	158.	364.	6	58
76 323	-205.0	158.	364.	6	58
76 325	-212.9	158.	364.	6	58
76 327	-222.9	158.	364.	6	58
76 329	-228.4	158.	364.	6	58
76 331	-232.7	158.	364.	6	58
76 333	-245.6	158.	364.	6	58
76 335	-246.1	158.	364.	6	58
76 337	-254.6	158.	364.	6	58

Table 7. Doppler Satellite UT-1 Service, Report Number 11, 11 May 1980 (Continued)

76 339	-257.0	158.	364.	6	58
76 341	-262.1	158.	364.	6	58
76 343	-270.0	158.	364.	6	58
76 345	-272.1	158.	364.	6	58
76 347	-277.8	158.	364.	6	58
76 349	-289.4	158.	364.	6	58
76 351	-293.7	158.	364.	6	58
76 353	-299.0	158.	364.	6	58
76 355	-304.0	158.	364.	6	58
76 357	-311.8	158.	364.	6	58
76 359	-316.1	158.	364.	6	58
76 361	-322.6	158.	364.	6	58
76 363	-326.3	158.	364.	6	58
76 365	-328.7	158.	364.	6	58

Table 8. Doppler Satellite UT-1 Service, Report Number 12, 11 May 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT TO OPTICAL DATA FOR PERIOD YEAR DAY 76. 10. 76. 364.

PERIODIC CORRECTIONS TO DATA

	PERIOD	SINE	COSINE
OPTICAL	1.000	11.203	-6.641
DOPPLER	1.000	0.000	0.000

	CONSTANT	SEMI-ANNUAL SIN	SEMI-ANNUAL COS	ANNUAL SIN	ANNUAL COS	DRIFT
OPTICAL	725.032	0.000	0.000	-11.842	5.380	-2.902
DOPPLER	11.556	0.000	0.000	-8.340	-1.328	-.340

YEAR	DAY	UT1-UTC	FIT SPAN	BIH SRC	SAT NO
76	10	699.0	9. 363.	6	6A
76	12	697.9	9. 363.	6	6A
76	14	693.5	9. 363.	6	6A
76	16	690.2	9. 363.	6	6A
76	18	683.1	9. 363.	6	6A
76	20	675.7	9. 363.	6	6A
76	22	668.7	9. 363.	6	6A
76	24	661.9	9. 363.	6	6A
76	26	655.4	9. 363.	6	6A
76	28	651.3	9. 363.	6	6A
76	30	645.6	9. 363.	6	6A
76	32	639.9	9. 363.	6	6A
76	34	631.7	9. 363.	6	6A
76	36	627.5	9. 363.	6	6A
76	38	622.2	9. 363.	6	6A
76	40	613.8	9. 363.	6	6A
76	42	610.9	9. 363.	6	6A
76	44	604.7	9. 363.	6	6A
76	46	595.8	9. 363.	6	6A
76	48	590.4	9. 363.	6	6A
76	50	584.0	9. 363.	6	6A
76	52	578.5	9. 363.	6	6A
76	54	572.4	9. 363.	6	6A
76	56	567.7	9. 363.	6	6A
76	58	559.6	9. 363.	6	6A
76	60	557.0	9. 363.	6	6A
76	62	555.0	9. 363.	6	6A
76	64	552.4	9. 363.	6	6A
76	66	541.0	9. 363.	6	6A
76	68	537.4	9. 363.	6	6A
76	70	528.6	9. 363.	6	6A
76	72	522.0	9. 363.	6	6A
76	74	519.8	9. 363.	6	6A
76	76	509.0	9. 363.	6	6A
76	78	501.3	9. 363.	6	6A
76	80	497.1	9. 363.	6	6A
76	82	490.6	9. 363.	6	6A
76	84	481.5	9. 363.	6	6A
76	86	473.3	9. 363.	6	6A
76	88	467.7	9. 363.	6	6A

Table 8. Doppler Satellite UT-1 Service, Report Number 12, 11 May 1980 (Continued)

76 90	444.1	9.	363.	6	6A
76 92	458.3	9.	363.	6	6A
76 94	453.2	9.	363.	6	6A
76 96	442.6	9.	363.	6	6A
76 98	437.3	9.	363.	6	6A
76 100	432.0	9.	363.	6	6A
76 102	422.3	9.	363.	6	6A
76 104	417.1	9.	363.	6	6A
76 106	410.8	9.	363.	6	6A
76 108	399.9	9.	363.	6	6A
76 110	397.2	9.	363.	6	6A
76 112	388.8	9.	363.	6	6A
76 114	380.0	9.	363.	6	6A
76 116	377.6	9.	363.	6	6A
76 118	371.5	9.	363.	6	6A
76 120	366.1	9.	363.	6	6A
76 122	359.9	9.	363.	6	6A
76 124	353.4	9.	363.	6	6A
76 126	346.2	9.	363.	6	6A
76 128	340.7	9.	363.	6	6A
76 130	334.9	9.	363.	6	6A
76 132	324.8	9.	363.	6	6A
76 134	315.4	9.	363.	6	6A
76 136	310.3	9.	363.	6	6A
76 138	299.1	9.	363.	6	6A
76 140	297.6	9.	363.	6	6A
76 142	291.1	9.	363.	6	6A
76 144	284.6	9.	363.	6	6A
76 146	274.5	9.	363.	6	6A
76 148	270.9	9.	363.	6	6A
76 150	265.4	9.	363.	6	6A
76 152	258.1	9.	363.	6	6A
76 154	259.0	9.	363.	6	6A
76 156	250.4	9.	363.	6	6A
76 158	245.1	9.	363.	6	6A
76 160	236.7	9.	363.	6	6A
76 162	228.3	9.	363.	6	6A
76 164	223.5	9.	363.	6	6A
76 166	220.9	9.	363.	6	6A
76 168	216.2	9.	363.	6	6A
76 170	211.3	9.	363.	6	6A
76 172	208.3	9.	363.	6	6A
76 174	205.6	9.	363.	6	6A
76 176	200.6	9.	363.	6	6A
76 178	196.3	9.	363.	6	6A
76 180	192.4	9.	363.	6	6A
76 182	189.6	9.	363.	6	6A
76 184	184.9	9.	363.	6	6A
76 186	178.7	9.	363.	6	6A
76 188	175.1	9.	363.	6	6A

Table 8. Doppler Satellite UT-1 Service, Report Number 12, 11 May 1980 (Continued)

76 190	171.7	9.	363.	6	6R
76 192	164.9	9.	363.	6	6R
76 194	158.4	9.	363.	6	6R
76 196	156.8	9.	363.	6	6R
76 198	152.5	9.	363.	6	6R
76 200	148.2	9.	363.	6	6R
76 202	144.4	9.	363.	6	6R
76 204	140.7	9.	363.	6	6R
76 206	135.6	9.	363.	6	6R
76 208	129.9	9.	363.	6	6R
76 210	127.1	9.	363.	6	6R
76 212	120.6	9.	363.	6	6R
76 214	115.6	9.	363.	6	6R
76 216	111.4	9.	363.	6	6R
76 218	105.2	9.	363.	6	6R
76 220	99.5	9.	363.	6	6R
76 222	94.4	9.	363.	6	6R
76 224	89.3	9.	363.	6	6R
76 226	84.8	9.	363.	6	6R
76 228	82.2	9.	363.	6	6R
76 230	75.0	9.	363.	6	6R
76 232	73.0	9.	363.	6	6R
76 234	66.7	9.	363.	6	6R
76 236	61.5	9.	363.	6	6R
76 238	58.1	9.	363.	6	6R
76 240	53.9	9.	363.	6	6R
76 242	46.3	9.	363.	6	6R
76 244	41.3	9.	363.	6	6R
76 246	36.4	9.	363.	6	6R
76 248	29.7	9.	363.	6	6R
76 250	26.7	9.	363.	6	6R
76 252	19.0	9.	363.	6	6R
76 254	13.1	9.	363.	6	6R
76 256	8.7	9.	363.	6	6R
76 258	4.4	9.	363.	6	6R
76 260	-3.1	9.	363.	6	6R
76 262	-9.2	9.	363.	6	6R
76 264	-17.0	9.	363.	6	6R
76 266	-24.6	9.	363.	6	6R
76 268	-29.4	9.	363.	6	6R
76 270	-36.6	9.	363.	6	6R
76 272	-43.7	9.	363.	6	6R
76 274	-49.1	9.	363.	6	6R
76 276	-55.7	9.	363.	6	6R
76 278	-64.8	9.	363.	6	6R
76 280	-71.0	9.	363.	6	6R
76 282	-75.2	9.	363.	6	6R
76 284	-83.0	9.	363.	6	6R
76 286	-90.2	9.	363.	6	6R
76 288	-94.7	9.	363.	6	6R

Table 8. Doppler Satellite UT-1 Service, Report Number 12, 11 May 1980 (Continued)

76 290	-101.3	9.	363.	6	6
76 292	-108.5	9.	363.	6	6
76 294	-114.9	9.	363.	6	6
76 296	-122.8	9.	363.	6	6
76 298	-132.5	9.	363.	6	6
76 300	-135.4	9.	363.	6	6
76 302	-143.2	9.	363.	6	6
76 304	-152.4	9.	363.	6	6
76 306	-155.4	9.	363.	6	6
76 308	-161.1	9.	363.	6	6
76 310	-169.6	9.	363.	6	6
76 312	-171.9	9.	363.	6	6
76 314	-178.4	9.	363.	6	6
76 316	-184.9	9.	363.	6	6
76 318	-191.9	9.	363.	6	6
76 320	-196.2	9.	363.	6	6
76 322	-203.4	9.	363.	6	6
76 324	-209.5	9.	363.	6	6
76 326	-217.4	9.	363.	6	6
76 328	-222.7	9.	363.	6	6
76 330	-228.0	9.	363.	6	6
76 332	-238.6	9.	363.	6	6
76 334	-244.4	9.	363.	6	6
76 336	-248.1	9.	363.	6	6
76 338	-252.3	9.	363.	6	6
76 340	-257.4	9.	363.	6	6
76 342	-264.8	9.	363.	6	6
76 344	-269.2	9.	363.	6	6
76 346	-279.0	9.	363.	6	6
76 348	-283.5	9.	363.	6	6
76 350	-290.9	9.	363.	6	6
76 352	-295.8	9.	363.	6	6
76 354	-302.8	9.	363.	6	6
76 356	-306.9	9.	363.	6	6
76 358	-317.2	9.	363.	6	6
76 360	-321.2	9.	363.	6	6
76 362	-324.6	9.	363.	6	6
76 364	-330.3	9.	363.	6	6

Table 9. Doppler Satellite UT-1 Service, Report Number 13, 11 May 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
76. 5.
76. 151.

					SEMI-ANNUAL		ANNUAL COEFF		
		CONSTANT			SIN	COS	SIN	COS	DRIFT
OPTICAL		791.399			13.868	-1.466	12.306	-59.235	-3.828
DOPPLER		-63.868			1.189	4.118	5.615	55.787	.684
YEAR	DAY	JT1-UTC	FIT	SPAN	BIH SRC		SAT NO		
76	5	719.4	4.	150.	6		77		
76	7	710.2	4.	150.	6		77		
76	9	700.9	4.	150.	6		77		
76	11	698.9	4.	150.	6		77		
76	13	693.9	4.	150.	6		77		
76	15	695.7	4.	150.	6		77		
76	17	689.0	4.	150.	6		77		
76	19	678.9	4.	150.	6		77		
76	21	673.6	4.	150.	6		77		
76	23	664.9	4.	150.	6		77		
76	25	652.7	4.	150.	6		77		
76	27	649.2	4.	150.	6		77		
76	29	645.7	4.	150.	6		77		
76	31	645.4	4.	150.	6		77		
76	33	636.3	4.	150.	6		77		
76	35	630.0	4.	150.	6		77		
76	37	625.9	4.	150.	6		77		
76	39	619.3	4.	150.	6		77		
76	41	609.0	4.	150.	6		77		
76	43	609.6	4.	150.	6		77		
76	45	602.3	4.	150.	6		77		
76	47	598.5	4.	150.	6		77		
76	49	588.3	4.	150.	6		77		
76	51	582.6	4.	150.	6		77		
76	53	580.2	4.	150.	6		77		
76	55	571.6	4.	150.	6		77		
76	57	568.8	4.	150.	6		77		
76	59	566.6	4.	150.	6		77		
76	61	552.8	4.	150.	6		77		
76	63	546.8	4.	150.	6		77		
76	65	540.1	4.	150.	6		77		
76	67	536.7	4.	150.	6		77		
76	69	530.7	4.	150.	6		77		
76	71	528.5	4.	150.	6		77		
76	73	522.2	4.	150.	6		77		
76	75	514.2	4.	150.	6		77		
76	77	505.0	4.	150.	6		77		
76	79	495.4	4.	150.	6		77		
76	81	489.4	4.	150.	6		77		
76	83	488.8	4.	150.	6		77		

Table 9. Doppler Satellite UT-1 Service, Report Number 13, 11 May 1980 (Continued)

76	85	477.8	4.	150.	6	77
76	87	471.9	4.	150.	6	77
76	89	464.2	4.	150.	6	77
76	91	459.6	4.	150.	6	77
76	93	455.5	4.	150.	6	77
76	95	443.9	4.	150.	6	77
76	97	444.0	4.	150.	6	77
76	99	433.8	4.	150.	6	77
76	101	429.5	4.	150.	6	77
76	103	417.0	4.	150.	6	77
76	105	411.1	4.	150.	6	77
76	107	405.0	4.	150.	6	77
76	109	401.1	4.	150.	6	77
76	111	391.3	4.	150.	6	77
76	113	386.5	4.	150.	6	77
76	115	378.6	4.	150.	6	77
76	117	374.8	4.	150.	6	77
76	119	368.3	4.	150.	6	77
76	121	358.7	4.	150.	6	77
76	123	356.0	4.	150.	6	77
76	125	348.1	4.	150.	6	77
76	127	342.5	4.	150.	6	77
76	129	340.4	4.	150.	6	77
76	131	329.2	4.	150.	6	77
76	133	319.3	4.	150.	6	77
76	135	310.5	4.	150.	6	77
76	137	302.0	4.	150.	6	77
76	139	298.7	4.	150.	6	77
76	141	293.7	4.	150.	6	77
76	143	285.7	4.	150.	6	77
76	145	282.8	4.	150.	6	77
76	147	274.7	4.	150.	6	77
76	149	263.9	4.	150.	6	77
76	151	264.0	4.	150.	6	77

Table 10. Doppler Satellite UT-1 Service, Report Number 1, 21 January 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
77. 10.
77. 364.

				SEMI-ANNUAL		ANNUAL COEFF		
		CONSTANT		SIN	COS	SIN	COS	DRIFT
OPTICAL		665.561		11.939	-9.435	-19.579	5.845	-2.747
DOPPLER		13.719		18.353	-16.418	-22.273	-4.375	-.165
YEAR	DAY	UT1-UTC	FIT	SPAN	BIH SRC	SAT NO		
77	10	639.7	10.	364.	6	69		
77	12	633.0	10.	364.	6	68		
77	14	628.6	10.	364.	6	69		
77	16	621.7	10.	364.	6	69		
77	18	614.7	10.	364.	6	68		
77	20	609.4	10.	364.	6	69		
77	22	606.1	10.	364.	6	69		
77	24	599.8	10.	364.	6	69		
77	26	596.6	10.	364.	6	68		
77	28	589.1	10.	364.	6	68		
77	30	583.3	10.	364.	6	69		
77	32	578.5	10.	364.	6	69		
77	34	573.7	10.	364.	6	69		
77	36	567.8	10.	364.	6	69		
77	38	565.5	10.	364.	6	68		
77	40	556.1	10.	364.	6	69		
77	42	551.3	10.	364.	6	69		
77	44	546.1	10.	364.	6	68		
77	46	540.4	10.	364.	6	69		
77	48	533.2	10.	364.	6	68		
77	50	527.7	10.	364.	6	68		
77	52	521.3	10.	364.	6	68		
77	54	515.2	10.	364.	6	68		
77	56	512.9	10.	364.	6	68		
77	58	507.5	10.	364.	6	68		
77	60	500.6	10.	364.	6	68		
77	62	496.4	10.	364.	6	68		
77	64	488.2	10.	364.	6	68		
77	66	482.6	10.	364.	6	68		
77	68	474.4	10.	364.	6	69		
77	70	472.3	10.	364.	6	68		
77	72	466.5	10.	364.	6	68		
77	74	459.3	10.	364.	6	68		
77	76	448.1	10.	364.	6	69		
77	78	445.6	10.	364.	6	69		
77	80	438.6	10.	364.	6	68		
77	82	437.8	10.	364.	6	68		
77	84	426.4	10.	364.	6	69		
77	86	420.6	10.	364.	6	68		
77	88	414.3	10.	364.	6	68		

Table 10. Doppler Satellite UT-1 Service, Report Number 1, 21 January 1980 (Continued)

77	90	411.2	10.	364.	6	68
77	92	400.9	10.	364.	6	68
77	94	396.9	10.	364.	6	68
77	96	387.6	10.	364.	6	68
77	98	381.6	10.	364.	6	68
77	100	375.7	10.	364.	6	68
77	102	370.1	10.	364.	6	68
77	104	364.5	10.	364.	6	68
77	106	358.3	10.	364.	6	68
77	108	352.2	10.	364.	6	68
77	110	346.5	10.	364.	6	68
77	112	339.8	10.	364.	6	68
77	114	335.1	10.	364.	6	68
77	116	325.2	10.	364.	6	68
77	118	322.2	10.	364.	6	68
77	120	314.6	10.	364.	6	68
77	122	307.7	10.	364.	6	68
77	124	302.9	10.	364.	6	68
77	126	295.5	10.	364.	6	68
77	128	287.5	10.	364.	6	68
77	130	281.6	10.	364.	6	68
77	132	275.6	10.	364.	6	68
77	134	269.1	10.	364.	6	68
77	136	261.9	10.	364.	6	68
77	138	260.1	10.	364.	6	68
77	140	250.6	10.	364.	6	68
77	142	246.3	10.	364.	6	68
77	144	242.6	10.	364.	6	68
77	146	234.7	10.	364.	6	68
77	148	230.5	10.	364.	6	68
77	150	223.7	10.	364.	6	68
77	152	215.1	10.	364.	6	68
77	154	209.8	10.	364.	6	68
77	156	205.0	10.	364.	6	68
77	158	198.3	10.	364.	6	68
77	160	196.0	10.	364.	6	68
77	162	191.5	10.	364.	6	68
77	164	183.1	10.	364.	6	68
77	166	178.4	10.	364.	6	68
77	168	176.8	10.	364.	6	68
77	170	173.3	10.	364.	6	68
77	172	169.8	10.	364.	6	68
77	174	165.3	10.	364.	6	68
77	176	159.1	10.	364.	6	68
77	178	152.1	10.	364.	6	68
77	180	150.6	10.	364.	6	68
77	182	146.5	10.	364.	6	68
77	184	142.0	10.	364.	6	68
77	186	141.8	10.	364.	6	68
77	188	137.7	10.	364.	6	68

Table 10. Doppler Satellite UT-1 Service, Report Number 1, 21 January 1980 (Continued)

77 190	132.3	10.	364.	6	69
77 192	128.7	10.	364.	6	69
77 194	125.6	10.	364.	6	69
77 196	123.5	10.	364.	6	69
77 198	120.4	10.	364.	6	69
77 200	118.1	10.	364.	6	68
77 202	113.6	10.	364.	6	69
77 204	108.0	10.	364.	6	69
77 206	104.1	10.	364.	6	69
77 208	99.1	10.	364.	6	69
77 210	97.0	10.	364.	6	69
77 212	94.2	10.	364.	6	69
77 214	89.8	10.	364.	6	68
77 216	86.1	10.	364.	6	69
77 218	81.4	10.	364.	6	69
77 220	77.3	10.	364.	6	68
77 222	76.6	10.	364.	6	69
77 224	72.5	10.	364.	6	69
77 226	66.8	10.	364.	6	68
77 228	64.9	10.	364.	6	68
77 230	59.4	10.	364.	6	68
77 232	53.6	10.	364.	6	68
77 234	51.5	10.	364.	6	68
77 236	45.0	10.	364.	6	69
77 238	41.1	10.	364.	6	69
77 240	38.4	10.	364.	6	68
77 242	31.3	10.	364.	6	69
77 244	27.4	10.	364.	6	69
77 246	19.8	10.	364.	6	69
77 248	17.4	10.	364.	6	69
77 250	9.4	10.	364.	6	69
77 252	4.6	10.	364.	6	68
77 254	1.1	10.	364.	6	69
77 256	-5.4	10.	364.	6	68
77 258	-13.6	10.	364.	6	69
77 260	-18.2	10.	364.	6	68
77 262	-24.5	10.	364.	6	69
77 264	-31.7	10.	364.	6	69
77 266	-36.5	10.	364.	6	69
77 268	-42.9	10.	364.	6	69
77 270	-49.2	10.	364.	6	69
77 272	-53.5	10.	364.	6	69
77 274	-61.4	10.	364.	6	69
77 276	-67.3	10.	364.	6	69
77 278	-73.4	10.	364.	6	69
77 280	-76.6	10.	364.	6	69
77 282	-81.1	10.	364.	6	68
77 284	-87.6	10.	364.	6	69
77 286	-97.2	10.	364.	6	68
77 288	-105.6	10.	364.	6	69

Table 10. Doppler Satellite UT-1 Service, Report Number 1, 21 January 1980 (Continued)

77 290	-111.5	10.	364.	6	69
77 292	-117.0	10.	364.	6	69
77 294	-124.3	10.	364.	6	69
77 296	-130.1	10.	364.	6	69
77 298	-138.4	10.	364.	6	69
77 300	-145.1	10.	364.	6	69
77 302	-151.2	10.	364.	6	68
77 304	-155.1	10.	364.	6	69
77 306	-162.7	10.	364.	6	68
77 308	-166.4	10.	364.	6	69
77 310	-172.6	10.	364.	6	69
77 312	-180.5	10.	364.	6	69
77 314	-189.7	10.	364.	6	68
77 316	-195.4	10.	364.	6	68
77 318	-202.9	10.	364.	6	68
77 320	-207.0	10.	364.	6	69
77 322	-213.3	10.	364.	6	69
77 324	-222.6	10.	364.	6	69
77 326	-227.3	10.	364.	6	69
77 328	-234.0	10.	364.	6	69
77 330	-239.7	10.	364.	6	69
77 332	-244.4	10.	364.	6	69
77 334	-248.3	10.	364.	6	68
77 336	-254.0	10.	364.	6	68
77 338	-261.7	10.	364.	6	68
77 340	-267.6	10.	364.	6	69
77 342	-274.4	10.	364.	6	69
77 344	-281.0	10.	364.	6	68
77 346	-285.1	10.	364.	6	69
77 348	-290.5	10.	364.	6	69
77 350	-298.4	10.	364.	6	69
77 352	-304.5	10.	364.	6	69
77 354	-312.1	10.	364.	6	68
77 356	-319.0	10.	364.	6	69
77 358	-323.8	10.	364.	6	68
77 360	-326.1	10.	364.	6	68
77 362	-335.0	10.	364.	6	69
77 364	-340.2	10.	364.	6	69

Table 11. Doppler Satellite UT-1 Service, Report Number 2, 21 January 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT TO OPTICAL DATA FOR PERIOD YEAR DAY 77. 95. 77. 365.

	CONSTANT	SEMI-ANNUAL SIN	SEMI-ANNUAL COS	ANNUAL COEFF SIN	ANNUAL COEFF COS	DRIFT
OPTICAL	689.869	12.638	-6.061	-26.482	13.957	-2.852
DOPPLER	-4.826	28.101	3.956	-20.566	17.915	.416

YEAR	DAY	UT1-UTC	FIT SPAN		BIH SRC	SAT NO
77	95	392.4	95.	365.	6	77
77	97	379.5	95.	365.	6	77
77	99	377.8	95.	365.	6	77
77	101	370.8	95.	365.	6	77
77	103	366.9	95.	365.	6	77
77	105	363.9	95.	365.	6	77
77	107	352.9	95.	365.	6	77
77	109	346.3	95.	365.	6	77
77	111	340.7	95.	365.	6	77
77	113	335.3	95.	365.	6	77
77	115	332.9	95.	365.	6	77
77	117	324.6	95.	365.	6	77
77	119	318.4	95.	365.	6	77
77	121	309.3	95.	365.	6	77
77	123	301.0	95.	365.	6	77
77	125	298.6	95.	365.	6	77
77	127	296.6	95.	365.	6	77
77	129	286.2	95.	365.	6	77
77	131	279.8	95.	365.	6	77
77	133	271.2	95.	365.	6	77
77	135	265.5	95.	365.	6	77
77	137	258.9	95.	365.	6	77
77	139	254.0	95.	365.	6	77
77	141	251.1	95.	365.	6	77
77	143	243.7	95.	365.	6	77
77	145	235.6	95.	365.	6	77
77	147	232.3	95.	365.	6	77
77	149	223.0	95.	365.	6	77
77	151	217.3	95.	365.	6	77
77	153	213.8	95.	365.	6	77
77	155	207.5	95.	365.	6	77
77	157	201.7	95.	365.	6	77
77	159	195.4	95.	365.	6	77
77	161	188.8	95.	365.	6	77
77	163	184.8	95.	365.	6	77
77	165	179.1	95.	365.	6	77
77	167	177.7	95.	365.	6	77
77	169	174.7	95.	365.	6	77
77	171	170.8	95.	365.	6	77
77	173	167.6	95.	365.	6	77

Table 11. Doppler Satellite UT-1 Service, Report Number 2, 21 January 1980 (Continued)

77 175	160.3	95.	365.	6	77
77 177	156.2	95.	365.	6	77
77 179	150.9	95.	365.	6	77
77 181	149.2	95.	365.	6	77
77 183	150.0	95.	365.	6	77
77 185	145.5	95.	365.	6	77
77 187	139.1	95.	365.	6	77
77 189	134.9	95.	365.	6	77
77 191	132.0	95.	365.	6	77
77 193	130.2	95.	365.	6	77
77 195	128.1	95.	365.	6	77
77 197	126.3	95.	365.	6	77
77 199	122.9	95.	365.	6	77
77 201	117.0	95.	365.	6	77
77 203	109.8	95.	365.	6	77
77 205	105.7	95.	365.	6	77
77 207	102.8	95.	365.	6	77
77 209	100.5	95.	365.	6	77
77 211	97.2	95.	365.	6	77
77 213	94.6	95.	365.	6	77
77 215	87.7	95.	365.	6	77
77 217	83.6	95.	365.	6	77
77 219	78.5	95.	365.	6	77
77 221	77.2	95.	365.	6	77
77 223	76.4	95.	365.	6	77
77 225	72.2	95.	365.	6	77
77 227	69.0	95.	365.	6	77
77 229	61.4	95.	365.	6	77
77 231	55.0	95.	365.	6	77
77 233	50.9	95.	365.	6	77
77 235	47.7	95.	365.	6	77
77 237	44.8	95.	365.	6	77
77 239	39.2	95.	365.	6	77
77 241	32.9	95.	365.	6	77
77 243	28.1	95.	365.	6	77
77 245	20.9	95.	365.	6	77
77 247	15.3	95.	365.	6	77
77 249	12.2	95.	365.	6	77
77 251	7.4	95.	365.	6	77
77 253	2.3	95.	365.	6	77
77 255	-4.0	95.	365.	6	77
77 257	-12.9	95.	365.	6	77
77 259	-18.4	95.	365.	6	77
77 261	-25.7	95.	365.	6	77
77 263	-30.2	95.	365.	6	77
77 265	-32.6	95.	365.	6	77
77 267	-41.3	95.	365.	6	77
77 269	-45.1	95.	365.	6	77
77 271	-54.8	95.	365.	6	77
77 273	-59.6	95.	365.	6	77

Table 11. Doppler Satellite UT-1 Service, Report Number 2, 21 January 1980 (Continued)

77 275	-64.6	95.	365.	6	77
77 277	-68.9	95.	365.	6	77
77 279	-72.1	95.	365.	6	77
77 281	-79.2	95.	365.	6	77
77 283	-86.6	95.	365.	6	77
77 285	-94.6	95.	365.	6	77
77 287	-102.5	95.	365.	6	77
77 289	-108.0	95.	365.	6	77
77 291	-112.0	95.	365.	6	77
77 293	-118.8	95.	365.	6	77
77 295	-126.2	95.	365.	6	77
77 297	-135.3	95.	365.	6	77
77 299	-142.4	95.	365.	6	77
77 301	-148.5	95.	365.	6	77
77 303	-153.6	95.	365.	6	77
77 305	-157.1	95.	365.	6	77
77 307	-161.7	95.	365.	6	77
77 309	-168.3	95.	365.	6	77
77 311	-175.4	95.	365.	6	77
77 313	-184.2	95.	365.	6	77
77 315	-190.9	95.	365.	6	77
77 317	-196.3	95.	365.	6	77
77 319	-201.5	95.	365.	6	77
77 321	-206.0	95.	365.	6	77
77 323	-212.9	95.	365.	6	77
77 325	-224.3	95.	365.	6	77
77 327	-231.0	95.	365.	6	77
77 329	-236.8	95.	365.	6	77
77 331	-239.6	95.	365.	6	77
77 333	-246.5	95.	365.	6	77
77 335	-249.0	95.	365.	6	77
77 337	-255.8	95.	365.	6	77
77 339	-263.4	95.	365.	6	77
77 341	-271.6	95.	365.	6	77
77 343	-279.5	95.	365.	6	77
77 345	-282.7	95.	365.	6	77
77 347	-287.8	95.	365.	6	77
77 349	-294.8	95.	365.	6	77
77 351	-301.7	95.	365.	6	77
77 353	-310.7	95.	365.	6	77
77 355	-316.8	95.	365.	6	77
77 357	-325.1	95.	365.	6	77
77 359	-328.9	95.	365.	6	77
77 361	-332.8	95.	365.	6	77
77 363	-340.4	95.	365.	6	77
77 365	-345.1	95.	365.	6	77

Table 12. Doppler Satellite UT-1 Service, Report Number 3, 21 January 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
78. 8.
78. 260.

				SEMI-ANNUAL		ANNUAL COEFF		
		CONSTANT		SIN	COS	SIN	COS	DRIFT
OPTICAL		658.495		9.307	-8.717	-38.862	6.708	-3.056
DOPPLER		6.032		19.016	-13.573	-31.474	13.491	-.219
YEAR	DAY	UT1-UTC	FIT	SPAN	BIH SRC	SAT NO		
78	8	623.8	8.	260.	6	68		
78	10	619.0	8.	260.	6	68		
78	12	612.9	8.	260.	6	68		
78	14	604.5	8.	260.	6	68		
78	16	599.5	8.	260.	6	68		
78	18	593.1	8.	260.	6	68		
78	20	589.2	8.	260.	6	68		
78	22	583.8	8.	260.	6	68		
78	24	582.9	8.	260.	6	68		
78	26	575.9	8.	260.	6	68		
78	28	568.6	8.	260.	6	68		
78	30	561.0	8.	260.	6	68		
78	32	557.9	8.	260.	6	68		
78	34	545.9	8.	260.	6	68		
78	36	541.1	8.	260.	6	68		
78	38	536.8	8.	260.	6	68		
78	40	527.7	8.	260.	6	68		
78	42	520.4	8.	260.	6	68		
78	44	513.3	8.	260.	6	68		
78	46	503.4	8.	260.	6	68		
78	48	497.8	8.	260.	6	68		
78	50	492.2	8.	260.	6	68		
78	52	485.5	8.	260.	6	68		
78	54	478.9	8.	260.	6	68		
78	56	472.1	8.	260.	6	68		
78	58	462.9	8.	260.	6	68		
78	60	454.1	8.	260.	6	68		
78	62	447.2	8.	260.	6	68		
78	64	441.6	8.	260.	6	68		
78	66	434.9	8.	260.	6	68		
78	68	427.8	8.	260.	6	68		
78	70	420.1	8.	260.	6	68		
78	72	411.5	8.	260.	6	68		
78	74	406.0	8.	260.	6	68		
78	76	398.7	8.	260.	6	68		
78	78	392.1	8.	260.	6	68		
78	80	385.9	8.	260.	6	68		
78	82	379.8	8.	260.	6	68		
78	84	372.6	8.	260.	6	68		
78	86	365.2	8.	260.	6	68		

Table 12. Doppler Satellite UT-1 Service, Report Number 3, 21 January 1980 (Continued)

78	88	358.2	8.	260.	6	68
78	90	350.6	8.	260.	6	68
78	92	345.5	8.	260.	6	68
78	94	341.4	8.	260.	6	68
78	96	330.3	8.	260.	6	68
78	98	324.1	8.	260.	6	68
78	100	320.2	8.	260.	6	68
78	102	311.4	8.	260.	6	68
78	104	306.1	8.	260.	6	68
78	106	300.1	8.	260.	6	68
78	108	293.5	8.	260.	6	68
78	110	287.7	8.	260.	6	68
78	112	280.4	8.	260.	6	68
78	114	272.3	8.	260.	6	68
78	116	265.4	8.	260.	6	68
78	118	259.9	8.	260.	6	68
78	120	256.4	8.	260.	6	68
78	122	250.1	8.	260.	6	68
78	124	242.9	8.	260.	6	68
78	126	235.6	8.	260.	6	68
78	128	226.9	8.	260.	6	68
78	130	223.8	8.	260.	6	68
78	132	217.3	8.	260.	6	68
78	134	215.0	8.	260.	6	68
78	136	206.5	8.	260.	6	68
78	138	199.6	8.	260.	6	68
78	140	189.1	8.	260.	6	68
78	142	185.7	8.	260.	6	68
78	144	178.2	8.	260.	6	68
78	146	171.7	8.	260.	6	68
78	148	168.3	8.	260.	6	68
78	150	160.5	8.	260.	6	68
78	152	151.5	8.	260.	6	68
78	154	148.3	8.	260.	6	68
78	156	142.4	8.	260.	6	68
78	158	137.3	8.	260.	6	68
78	160	133.4	8.	260.	6	68
78	162	130.4	8.	260.	6	68
78	164	124.3	8.	260.	6	68
78	166	119.9	8.	260.	6	68
78	168	114.0	8.	260.	6	68
78	170	108.8	8.	260.	6	68
78	172	104.5	8.	260.	6	68
78	174	103.6	8.	260.	6	68
78	176	99.1	8.	260.	6	68
78	178	92.4	8.	260.	6	68
78	180	85.7	8.	260.	6	68
78	182	81.1	8.	260.	6	68
78	184	80.3	8.	260.	6	68
78	186	75.8	8.	260.	6	68

Table 12. Doppler Satellite UT-1 Service, Report Number 3, 21 January 1980 (Continued)

78 188	75.8	8.	260.	6	68
78 190	68.5	8.	260.	6	68
78 192	67.6	8.	260.	6	68
78 194	61.4	8.	260.	6	68
78 196	56.2	8.	260.	6	68
78 198	52.2	8.	260.	6	68
78 200	49.0	8.	260.	6	68
78 202	48.0	8.	260.	6	68
78 204	45.4	8.	260.	6	68
78 206	41.4	8.	260.	6	68
78 208	36.4	8.	260.	6	68
78 210	32.0	8.	260.	6	68
78 212	29.3	8.	260.	6	68
78 214	27.4	8.	260.	6	68
78 216	25.3	8.	260.	6	68
78 218	19.7	8.	260.	6	68
78 220	15.0	8.	260.	6	68
78 222	9.4	8.	260.	6	68
78 224	5.6	8.	260.	6	68
78 226	-1.7	8.	260.	6	68
78 228	-4.1	8.	260.	6	68
78 230	-10.0	8.	260.	6	68
78 232	-15.9	8.	260.	6	68
78 234	-21.6	8.	260.	6	68
78 236	-24.3	8.	260.	6	68
78 238	-31.0	8.	260.	6	68
78 240	-36.4	8.	260.	6	68
78 242	-38.3	8.	260.	6	68
78 244	-45.2	8.	260.	6	68
78 246	-49.8	8.	260.	6	68
78 248	-55.7	8.	260.	6	68
78 250	-63.6	8.	260.	6	68
78 252	-69.2	8.	260.	6	68
78 254	-72.0	8.	260.	6	68
78 256	-77.7	8.	260.	6	68
78 258	-80.0	8.	260.	6	68
78 260	-85.2	8.	260.	6	68

Table 13. Doppler Satellite UT-1 Service, Report Number 4, 21 January 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
78. 11.
78. 365.

	CONSTANT	SEMI-ANNUAL SIN	SEMI-ANNUAL COS	ANNUAL COEFF SIN	ANNUAL COEFF COS	DRIFT
OPTICAL	635.292	9.242	-3.967	-27.202	18.822	-2.884
DOPPLER	-37.509	22.960	8.026	-26.943	23.142	.417

YEAR	DAY	UT1-UTC	FIT SPAN		BIH SRC	SAT NO
78	11	619.1	11.	365.	6	77
78	13	611.1	11.	365.	6	77
78	15	605.1	11.	365.	6	77
78	17	597.0	11.	365.	6	77
78	19	592.2	11.	365.	6	77
78	21	589.7	11.	365.	6	77
78	23	583.8	11.	365.	6	77
78	25	578.3	11.	365.	6	77
78	27	571.9	11.	365.	6	77
78	29	562.2	11.	365.	6	77
78	31	554.9	11.	365.	6	77
78	33	549.1	11.	365.	6	77
78	35	544.2	11.	365.	6	77
78	37	539.3	11.	365.	6	77
78	39	531.0	11.	365.	6	77
78	41	523.3	11.	365.	6	77
78	43	512.5	11.	365.	6	77
78	45	508.0	11.	365.	6	77
78	47	502.5	11.	365.	6	77
78	49	492.6	11.	365.	6	77
78	51	489.0	11.	365.	6	77
78	53	482.4	11.	365.	6	77
78	55	472.9	11.	365.	6	77
78	57	463.6	11.	365.	6	77
78	59	454.1	11.	365.	6	77
78	61	447.4	11.	365.	6	77
78	63	445.2	11.	365.	6	77
78	65	439.9	11.	365.	6	77
78	67	431.3	11.	365.	6	77
78	69	421.0	11.	365.	6	77
78	71	413.1	11.	365.	6	77
78	73	408.8	11.	365.	6	77
78	75	405.3	11.	365.	6	77
78	77	397.5	11.	365.	6	77
78	79	391.1	11.	365.	6	77
78	81	385.7	11.	365.	6	77
78	83	377.1	11.	365.	6	77
78	85	368.6	11.	365.	6	77
78	87	361.7	11.	365.	6	77
78	89	354.1	11.	365.	6	77

Table 13. Doppler Satellite UT-1 Service, Report Number 4, 21 January 1980 (Continued)

78	91	348.7	11.	365.	6	77
78	93	345.4	11.	365.	6	77
78	95	336.8	11.	365.	6	77
78	97	329.4	11.	365.	6	77
78	99	319.6	11.	365.	6	77
78	101	314.1	11.	365.	6	77
78	103	311.8	11.	365.	6	77
78	105	305.4	11.	365.	6	77
78	107	301.2	11.	365.	6	77
78	109	289.8	11.	365.	6	77
78	111	282.5	11.	365.	6	77
78	113	274.2	11.	365.	6	77
78	115	269.5	11.	365.	6	77
78	117	265.5	11.	365.	6	77
78	119	258.9	11.	365.	6	77
78	121	250.7	11.	365.	6	77
78	123	244.5	11.	365.	6	77
78	125	235.7	11.	365.	6	77
78	127	230.8	11.	365.	6	77
78	129	224.9	11.	365.	6	77
78	131	220.8	11.	365.	6	77
78	133	217.5	11.	365.	6	77
78	135	209.1	11.	365.	6	77
78	137	206.1	11.	365.	6	77
78	139	195.3	11.	365.	6	77
78	141	187.4	11.	365.	6	77
78	143	181.2	11.	365.	6	77
78	145	178.1	11.	365.	6	77
78	147	171.0	11.	365.	6	77
78	149	163.9	11.	365.	6	77
78	151	154.9	11.	365.	6	77
78	153	148.3	11.	365.	6	77
78	155	140.5	11.	365.	6	77
78	157	141.2	11.	365.	6	77
78	159	137.0	11.	365.	6	77
78	161	131.2	11.	365.	6	77
78	163	128.2	11.	365.	6	77
78	165	122.3	11.	365.	6	77
78	167	117.5	11.	365.	6	77
78	169	109.9	11.	365.	6	77
78	171	105.9	11.	365.	6	77
78	173	106.3	11.	365.	6	77
78	175	102.2	11.	365.	6	77
78	177	93.3	11.	365.	6	77
78	179	89.5	11.	365.	6	77
78	181	85.0	11.	365.	6	77
78	183	83.2	11.	365.	6	77
78	185	81.5	11.	365.	6	77
78	187	79.1	11.	365.	6	77
78	189	73.2	11.	365.	6	77

Table 13. Doppler Satellite UT-1 Service, Report Number 4, 21 January 1980 (Continued)

78 191	69.7	11.	365.	6	77
78 193	63.6	11.	365.	6	77
78 195	57.2	11.	365.	6	77
78 197	53.8	11.	365.	6	77
78 199	51.7	11.	365.	6	77
78 201	48.0	11.	365.	6	77
78 203	42.8	11.	365.	6	77
78 205	40.1	11.	365.	6	77
78 207	35.2	11.	365.	6	77
78 209	30.0	11.	365.	6	77
78 211	26.9	11.	365.	6	77
78 213	26.9	11.	365.	6	77
78 215	24.6	11.	365.	6	77
78 217	19.5	11.	365.	6	77
78 219	16.1	11.	365.	6	77
78 221	10.0	11.	365.	6	77
78 223	4.6	11.	365.	6	77
78 225	-.7	11.	365.	6	77
78 227	-3.6	11.	365.	6	77
78 229	-5.6	11.	365.	6	77
78 231	-10.4	11.	365.	6	77
78 233	-13.6	11.	365.	6	77
78 235	-20.7	11.	365.	6	77
78 237	-28.6	11.	365.	6	77
78 239	-30.9	11.	365.	6	77
78 241	-35.1	11.	365.	6	77
78 243	-37.4	11.	365.	6	77
78 245	-43.4	11.	365.	6	77
78 247	-51.5	11.	365.	6	77
78 249	-58.3	11.	365.	6	77
78 251	-60.5	11.	365.	6	77
78 253	-69.2	11.	365.	6	77
78 255	-71.0	11.	365.	6	77
78 257	-75.6	11.	365.	6	77
78 259	-79.3	11.	365.	6	77
78 261	-91.0	11.	365.	6	77
78 263	-95.8	11.	365.	6	77
78 265	-99.2	11.	365.	6	77
78 267	-105.2	11.	365.	6	77
78 269	-107.5	11.	365.	6	77
78 271	-110.4	11.	365.	6	77
78 273	-119.9	11.	365.	6	77
78 275	-125.7	11.	365.	6	77
78 277	-134.2	11.	365.	6	77
78 279	-140.0	11.	365.	6	77
78 281	-144.3	11.	365.	6	77
78 283	-149.7	11.	365.	6	77
78 285	-158.1	11.	365.	6	77
78 287	-163.1	11.	365.	6	77
78 289	-171.9	11.	365.	6	77

Table 13. Doppler Satellite UT-1 Service, Report Number 4, 21 January 1980 (Continued)

78 291	-178.5	11.	365.	6	77
78 293	-184.2	11.	365.	6	77
78 295	-187.8	11.	365.	6	77
78 297	-193.0	11.	365.	6	77
78 299	-198.8	11.	365.	6	77
78 301	-206.8	11.	365.	6	77
78 303	-213.0	11.	365.	6	77
78 305	-220.2	11.	365.	6	77
78 307	-224.8	11.	365.	6	77
78 309	-229.1	11.	365.	6	77
78 311	-232.3	11.	365.	6	77
78 313	-240.3	11.	365.	6	77
78 315	-250.4	11.	365.	6	77
78 317	-257.9	11.	365.	6	77
78 319	-264.5	11.	365.	6	77
78 321	-269.1	11.	365.	6	77
78 323	-272.1	11.	365.	6	77
78 325	-278.6	11.	365.	6	77
78 327	-285.1	11.	365.	6	77
78 329	-294.0	11.	365.	6	77
78 331	-301.8	11.	365.	6	77
78 333	-308.4	11.	365.	6	77
78 335	-312.9	11.	365.	6	77
78 337	-317.6	11.	365.	6	77
78 339	-323.6	11.	365.	6	77
78 341	-329.5	11.	365.	6	77
78 343	-335.2	11.	365.	6	77
78 345	-345.5	11.	365.	6	77
78 347	-351.2	11.	365.	6	77
78 349	-353.4	11.	365.	6	77
78 351	-360.1	11.	365.	6	77
78 353	-362.2	11.	365.	6	77
78 355	-370.3	11.	365.	6	77
78 357	-376.9	11.	365.	6	77
78 359	-383.0	11.	365.	6	77
78 361	-389.6	11.	365.	6	77
78 363	-392.3	11.	365.	6	77
78 365	-395.7	11.	365.	6	77

Table 14. Doppler Satellite Ut-1 Service, Report Number 5, 21 January 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
79. 79.
79. 297.

	CONSTANT	SEMI-ANNUAL SIN	SEMI-ANNUAL COS	ANNUAL COEFF SIN	ANNUAL COEFF COS	DRIFT
OPTICAL	594.144	5.581	-5.462	-24.679	14.834	-2.697
DOPPLER	-84.146	31.306	-6.754	12.005	18.587	.625

YEAR	DAY	UT1-UTC	FIT	SPAN	BIH SPC	SAT NO
79	79	366.5	79.	297.	3	60
79	81	361.2	79.	297.	3	60
79	83	357.6	79.	297.	3	60
79	85	350.0	79.	297.	3	60
79	87	342.6	79.	297.	3	60
79	89	330.1	79.	297.	3	60
79	91	325.3	79.	297.	3	60
79	93	323.9	79.	297.	3	60
79	95	316.2	79.	297.	3	60
79	97	313.2	79.	297.	3	60
79	99	307.1	79.	297.	3	60
79	101	299.7	79.	297.	3	60
79	103	294.2	79.	297.	3	60
79	105	284.4	79.	297.	3	60
79	107	278.4	79.	297.	3	60
79	109	273.0	79.	297.	3	60
79	111	272.1	79.	297.	3	60
79	113	262.5	79.	297.	3	60
79	115	253.9	79.	297.	3	60
79	117	247.3	79.	297.	3	60
79	119	239.1	79.	297.	3	60
79	121	238.1	79.	297.	3	60
79	123	231.7	79.	297.	3	60
79	125	226.8	79.	297.	3	60
79	127	221.8	79.	297.	3	60
79	129	215.3	79.	297.	3	60
79	131	209.7	79.	297.	3	60
79	133	201.3	79.	297.	3	60
79	135	198.1	79.	297.	3	60
79	137	191.6	79.	297.	3	60
79	139	184.7	79.	297.	3	60
79	141	179.1	79.	297.	3	60
79	143	171.9	79.	297.	3	60
79	145	166.8	79.	297.	3	60
79	147	160.4	79.	297.	3	60
79	149	157.7	79.	297.	3	60
79	151	155.5	79.	297.	3	60
79	153	150.3	79.	297.	3	60
79	155	144.2	79.	297.	3	60
79	157	139.3	79.	297.	3	60

Table 14. Doppler Satellite Ut-1 Service, Report Number 5, 21 January 1980 (Continued)

79 159	132.3	79.	297.	3	60
79 161	130.5	79.	297.	3	60
79 163	127.1	79.	297.	3	60
79 165	123.9	79.	297.	3	60
79 167	118.1	79.	297.	3	60
79 169	110.4	79.	297.	3	60
79 171	104.2	79.	297.	3	60
79 173	100.2	79.	297.	3	60
79 175	94.7	79.	297.	3	60
79 177	93.6	79.	297.	3	60
79 179	90.1	79.	297.	3	60
79 181	88.7	79.	297.	3	60
79 183	82.0	79.	297.	3	60
79 185	75.1	79.	297.	3	60
79 187	71.7	79.	297.	3	60
79 189	67.1	79.	297.	3	60
79 191	65.0	79.	297.	3	60
79 193	60.3	79.	297.	3	60
79 195	54.8	79.	297.	3	60
79 197	49.0	79.	297.	3	60
79 199	45.6	79.	297.	3	60
79 201	41.0	79.	297.	3	60
79 203	37.6	79.	297.	3	60
79 205	35.8	79.	297.	3	60
79 207	34.9	79.	297.	3	60
79 209	32.7	79.	297.	3	60
79 211	26.9	79.	297.	3	60
79 213	21.7	79.	297.	3	60
79 215	19.3	79.	297.	3	60
79 217	17.1	79.	297.	3	60
79 219	13.5	79.	297.	3	60
79 221	11.2	79.	297.	3	60
79 223	5.5	79.	297.	3	60
79 225	-1.5	79.	297.	3	60
79 227	-4.1	79.	297.	3	60
79 229	-8.8	79.	297.	3	60
79 231	-10.3	79.	297.	3	60
79 233	-13.6	79.	297.	3	60
79 235	-28.1	79.	297.	3	60
79 237	-32.6	79.	297.	3	60
79 239	-38.0	79.	297.	3	60
79 241	-40.2	79.	297.	3	60
79 243	-45.5	79.	297.	3	60
79 245	-46.1	79.	297.	3	60
79 247	-49.2	79.	297.	3	60
79 249	-53.1	79.	297.	3	60
79 251	-58.8	79.	297.	3	60
79 253	-63.8	79.	297.	3	60
79 255	-68.5	79.	297.	3	60
79 257	-72.4	79.	297.	3	60

Table 14. Doppler Satellite Ut-1 Service, Report Number 5, 21 January 1980 (Continued)

79 259	-76.3	79.	297.	3	60
79 261	-80.3	79.	297.	3	60
79 263	-84.4	79.	297.	3	60
79 265	-91.6	79.	297.	3	60
79 267	-98.0	79.	297.	3	60
79 269	-102.0	79.	297.	3	60
79 271	-105.6	79.	297.	3	60
79 273	-109.0	79.	297.	3	60
79 275	-114.8	79.	297.	3	60
79 277	-117.8	79.	297.	3	60
79 279	-125.8	79.	297.	3	60
79 281	-134.5	79.	297.	3	60
79 283	-138.9	79.	297.	3	60
79 285	-146.1	79.	297.	3	60
79 287	-148.8	79.	297.	3	60
79 289	-153.7	79.	297.	3	60
79 291	-159.9	79.	297.	3	60
79 293	-166.0	79.	297.	3	60
79 295	-174.8	79.	297.	3	60
79 297	-183.1	79.	297.	3	60

Table 15. Doppler Satellite UT-1 Service, Report Number 6, 21 January 1980

DOPPLER RESULTS REFERRED TO 6 PARAMETER FIT
TO OPTICAL DATA FOR PERIOD YEAR DAY
79. 10.
79. 290.

			SEMI-ANNUAL		ANNUAL COEFF		
	CONSTANT	SIN	COS	SIN	COS	DRIFT
OPTICAL	588.516	5.811	-6.070	-22.377	13.825	-2.669
DOPPLER	-2.753	14.946	-14.851	-17.584	15.024	-.035

YEAR	DAY	UT1-UTC	FIT SPAN		BIH SRC	SAT NO
79	10	567.3	10.	290.	3	68
79	12	563.2	10.	290.	3	68
79	14	557.5	10.	290.	3	68
79	16	554.3	10.	290.	3	68
79	18	544.5	10.	290.	3	68
79	20	541.9	10.	290.	3	68
79	22	533.0	10.	290.	3	68
79	24	528.2	10.	290.	3	68
79	26	521.3	10.	290.	3	68
79	28	517.5	10.	290.	3	68
79	30	511.4	10.	290.	3	68
79	32	505.2	10.	290.	3	68
79	34	495.5	10.	290.	3	68
79	36	488.3	10.	290.	3	68
79	38	487.2	10.	290.	3	68
79	40	483.2	10.	290.	3	68
79	42	477.5	10.	290.	3	68
79	44	473.1	10.	290.	3	68
79	46	465.7	10.	290.	3	68
79	48	458.9	10.	290.	3	68
79	50	451.7	10.	290.	3	68
79	52	448.4	10.	290.	3	68
79	54	443.0	10.	290.	3	68
79	56	438.0	10.	290.	3	68
79	58	432.9	10.	290.	3	68
79	60	425.5	10.	290.	3	68
79	62	416.5	10.	290.	3	68
79	64	409.5	10.	290.	3	68
79	66	404.0	10.	290.	3	68
79	68	400.5	10.	290.	3	68
79	70	399.7	10.	290.	3	68
79	72	391.4	10.	290.	3	68
79	74	383.8	10.	290.	3	68
79	76	376.3	10.	290.	3	68
79	78	370.4	10.	290.	3	68
79	80	362.3	10.	290.	3	68
79	82	358.5	10.	290.	3	68
79	84	351.7	10.	290.	3	68
79	86	343.2	10.	290.	3	68
79	88	335.3	10.	290.	3	68

Table 15. Doppler Satellite UT-1 Service, Report Number 6, 21 January 1980 (Continued)

79	90	329.2	10.	290.	3	68
79	92	323.2	10.	290.	3	68
79	94	319.9	10.	290.	3	68
79	96	313.8	10.	290.	3	68
79	98	309.8	10.	290.	3	68
79	100	303.4	10.	290.	3	68
79	102	298.5	10.	290.	3	68
79	104	289.8	10.	290.	3	68
79	106	283.6	10.	290.	3	68
79	108	279.2	10.	290.	3	68
79	110	271.9	10.	290.	3	68
79	112	264.8	10.	290.	3	68
79	114	258.9	10.	290.	3	68
79	116	250.2	10.	290.	3	68
79	118	244.3	10.	290.	3	68
79	120	238.5	10.	290.	3	68
79	122	233.9	10.	290.	3	68
79	124	230.9	10.	290.	3	68
79	126	225.0	10.	290.	3	68
79	128	218.1	10.	290.	3	68
79	130	209.1	10.	290.	3	68
79	132	203.8	10.	290.	3	68
79	134	198.8	10.	290.	3	68
79	136	193.6	10.	290.	3	68
79	138	189.9	10.	290.	3	68
79	140	182.6	10.	290.	3	68
79	142	175.6	10.	290.	3	68
79	144	169.3	10.	290.	3	68
79	146	163.7	10.	290.	3	68
79	148	158.1	10.	290.	3	68
79	150	154.8	10.	290.	3	68
79	152	152.2	10.	290.	3	68
79	154	146.6	10.	290.	3	68
79	156	143.3	10.	290.	3	68
79	158	139.5	10.	290.	3	68
79	160	133.4	10.	290.	3	68
79	162	127.6	10.	290.	3	68
79	164	124.8	10.	290.	3	68
79	166	121.4	10.	290.	3	68
79	168	114.9	10.	290.	3	68
79	170	109.4	10.	290.	3	68
79	172	104.6	10.	290.	3	68
79	174	99.2	10.	290.	3	68
79	176	96.1	10.	290.	3	68
79	178	94.1	10.	290.	3	68
79	180	88.2	10.	290.	3	68
79	182	83.2	10.	290.	3	68
79	184	78.7	10.	290.	3	68
79	186	74.9	10.	290.	3	68
79	188	68.3	10.	290.	3	68

Table 15. Doppler Satellite UT-1 Service, Report Number 6, 21 January 1980 (Continued)

79 190	65.1	10.	290.	3	68
79 192	60.4	10.	290.	3	68
79 194	55.3	10.	290.	3	68
79 196	52.5	10.	290.	3	68
79 198	47.0	10.	290.	3	68
79 200	41.9	10.	290.	3	68
79 202	41.2	10.	290.	3	68
79 204	38.0	10.	290.	3	68
79 206	34.1	10.	290.	3	68
79 208	33.6	10.	290.	3	68
79 210	28.8	10.	290.	3	68
79 212	23.6	10.	290.	3	68
79 214	21.4	10.	290.	3	68
79 216	19.2	10.	290.	3	68
79 218	15.0	10.	290.	3	68
79 220	7.7	10.	290.	3	68
79 222	5.3	10.	290.	3	68
79 224	-.7	10.	290.	3	68
79 226	-8.0	10.	290.	3	68
79 228	-10.6	10.	290.	3	68
79 230	-14.0	10.	290.	3	68
79 232	-16.2	10.	290.	3	68
79 234	-19.2	10.	290.	3	68
79 236	-23.9	10.	290.	3	68
79 238	-28.3	10.	290.	3	68
79 240	-33.7	10.	290.	3	68
79 242	-38.4	10.	290.	3	68
79 244	-42.1	10.	290.	3	68
79 246	-45.4	10.	290.	3	68
79 248	-49.2	10.	290.	3	68
79 250	-53.1	10.	290.	3	68
79 252	-61.7	10.	290.	3	68
79 254	-67.3	10.	290.	3	68
79 256	-70.3	10.	290.	3	68
79 258	-76.3	10.	290.	3	68
79 260	-80.1	10.	290.	3	68
79 262	-82.8	10.	290.	3	68
79 264	-89.0	10.	290.	3	68
79 266	-93.9	10.	290.	3	68
79 268	-98.3	10.	290.	3	68
79 270	-105.0	10.	290.	3	68
79 272	-108.3	10.	290.	3	68
79 274	-112.2	10.	290.	3	68
79 276	-118.0	10.	290.	3	68
79 278	-121.6	10.	290.	3	68
79 280	-129.2	10.	290.	3	68
79 282	-138.6	10.	290.	3	68
79 284	-144.0	10.	290.	3	68
79 286	-146.8	10.	290.	3	68
79 288	-152.1	10.	290.	3	68
79 290	-157.6	10.	290.	3	68

DISTRIBUTION

Defense Technical Information Center
Cameron Station
Alexandria, VA 22314 (12)

Library of Congress
Washington, DC 20540
Attn: Gift and Exchange Division (4)

National Aeronautics and Space Administration
Scientific and Technical Information Facility
Box 5700
Bethesda, MD 20014
Attn: Technical Library (2)

Director
Defense Mapping Agency
Washington, DC 20305 (3)

Director
Defense Mapping Agency
Hydrographic/Topographic Center
Washington, DC 20390
Attn: Mrs. Caroline Leroy (3)

Director
Defense Mapping Agency
Aerospace Center
St. Louis, MO 63118
Attn: Dr. Robert Ballew (6)

National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, MD 20850
Attn: Dr. John Bossler (5)

The Ohio Station University
Department of Geodetic Science
1958 Neil Avenue
Columbus, OH 43210
Attn: Dr. Richard Rapp
Dr. Ivan Mueller

Local

E31 (GIDEP)
E41
K10 (60)
K11 (10)
K12 (5)
K13 (10)
X210 (6)